KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI, GHANA

A PRINCIPAL INVESTIGATOR'S HANDBOOK FOR GRANTS AND RESEARCH

Office of Grants and Research

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PREFACE

Research grants are usually awarded based on the professional expertise of the Principal Investigator (PIs) submitting the proposals. However, most donors acknowledge the fact that the PI is often affiliated to an institution where the research project will be hosted. Once an award is accepted, the PI assumes full responsibility for the implementation of the project in accordance with the funder's terms and conditions. The administration of sponsored projects is however the responsibility of the University and which has been delegated to the Office of Grants and Research (OGR) and the PI. Thus, the PI is responsible for the day-to-day running of the project activities while the University provides the infrastructure within which the research or project is implemented. The PI and the University have a mutual interest in ensuring that the project objectives are achieved in accordance with University's principles and vision. The office of Grants and Research is the official liaison between the PI and the project sponsors. The Office is also responsible for agreement, negotiations and overall administration of the sponsored project. The Principal Investigator's Handbook is published by the OGR to assist researchers and other stakeholders with the overall management of sponsored projects. The Handbook seeks to:

- Inform PIs and other key stakeholders of their roles and responsibilities at every stage of the grant cycle
- Organise pertinent information on research grants administration in a single document and make it easily accessible by PIs and all stakeholders and
- Provide guidance in the development and administration of research grants or sponsored projects

The Handbook outlines the specific roles of the PI, Vice Chancellor, the OGR, Provosts/Deans/Heads of Department, Finance Officers, Internal Auditors and Research Administrators at every stage of the grant cycle (Pre-award, award and post award). The Handbook will be reviewed from time to time to accommodate emerging issues and best practices in grants and research administration.

1.0 BACKGROUND

1.1 Introduction

This Handbook is designed to assist investigators (Academic and Administrative staff) in conducting research at the Kwame Nkrumah University of Science and Technology (KNUST) and in complying with research- related regulations. It is also aimed at providing guidance to investigators on how to develop and administer externally and internally funded or sponsored research projects and to inform, particularly Principal Investigators (PIs) of their roles and responsibilities in research administration and compliance. It is also to alert researchers of resources available to help them meet their research responsibilities and serve as a quick reference to answers for frequently asked questions on research and grants management in KNUST.

This handbook is expected to be an evolving document and may be updated from time to time to reflect changes in best practices as well as funder or institutional policies, procedures and practices.

2.0 ROLES AND RESPONSIBILITIES

The expected roles of responsible persons and offices are given as follows:

2.1 The Office of Grants and Research (OGR)

The Office of Grants and Research (OGR) is a Unit, under the Vice-Chancellor of the Kwame Nkrumah University of Science and Technology, with the responsibility of overseeing research administration in the University. The OGR was established to provide support to staff for the management of grants and research, and capacity building. The Office is the coordination point for information, guidance, documentation and administration of fundered research projects.

The OGR is made up of the central office and the network of College Research Offices, which work together to provide support for researchers and project staff. The Offices perform the following functions with respect to the research and various stages of the grant process.

2.1.1 Pre-award:

- Help identify funding opportunities and disseminate such information to potential principal investigators and research team members.
- Team up with researchers and staff to prepare proposals and budgets.
- Help the PI to satisfy the requirements of announced funding opportunity.
- Assist the PI in the processes of registration, internal review, and submission of proposals intended for external support.
- Notify PIs of pertinent University and funding agency policies and procedures.
- Review research proposals prior to submission to conform to institutional policies and funder requirements, and make appropriate recommendations to the Vice-Chancellor.
- Ensure timely submission of applications and track the review process.

2.1.2 Award:

- Review, negotiate, and accept grants, contracts and subcontracts that support funded research on behalf of the University in consultation with the legal Department.
- Prepare, negotiate, and issue sub-awards required under funded research awards at KNUST in consultation with the legal Department.
- Advise and assist researchers and research administrators in interpreting the terms and conditions of grants.
- Serve as a liaison between grant awarding institutions/ individuals (funders) and awardees to meet grant award requirements.

2.1.3 Post Award:

- Review, negotiate, and accept awards and sub-awards that support funded research in consultation with the relevant units and stakeholders.
- Review the terms and conditions of each contract or grant to ensure compatibility and compliance with university policy.
- Prepare, negotiate, and issue sub-awards required under funded research awards at KNUST.
- Serve as a liaison with funders for award requirements and award management matters.
- Coordinate administration of grants with the PI and the various Colleges.
- Ensure that the University's interests are protected in grant applications and awards, contractual relationships and reports.
- Provide advice on and monitor compliance with policies and procedures, as well as clarify administrative and financial regulations and requirements.
- Provide support in post-award non-financial administrative transactions as needed.
- Facilitate the timely submission of technical and financial reports to funders.
- Work with PIs and project teams to solve problems that may arise during grant period.
- Assist in responding to queries and additional requirements from the funder.
- Ensure that all research activities comply with funder, institutional and national requirements.
- Assist PIs in closing-out projects.

2.1.4 Administration of Grants and Research:

- Maintain proper records on grants and research activities in the University.
- Produce an annual research report for the University.
- Create and maintain information on proposals, funders and their funding areas.
- Compile and maintain the profile (data and information) of KNUST for use by researchers.
- Develop and update templates and toolkits that can be used by researchers during proposal development.
- Organise training in research methodology, proposal writing, grant administration, compliance and other research related areas for staff.
- Promote team building, research capacity building and research mentoring in the University by supporting the formation of diverse and inter-disciplinary research teams.
- Identify externally funded training opportunities for staff.
- Initiate policy development processes for research and grant related issues.
- Facilitate research uptake activities and effective dissemination of research outputs.
- Provide project management support services for research projects.
- Work with existing relevant units in addressing intellectual property and knowledge transfer issues in research.
- Administer the KNUST Research Fund, including compliance with all its guidelines.
- Perform any other research related function as the University may deem necessary.

2.2 Vice-Chancellor

The Vice-Chancellor is the chief institutional official responsible for the direction and guidance of the University's research mission and exercises oversight responsibilty and support for all aspects of the research process. The specific responsibilities include the following:

- Ensure that appropriate research-related policies are developed and implemented.

- Evaluate and approve requests for indirect cost rate reductions.
- Approve co-funding if the funds are expected to come from University sources.
- Oversee acceptance of awards from funders by signing all contractual agreements.
- Delegate operational authority for research related activities to the appropriate University Units. These include the Office of Grants and Research for the administration of grants and research projects and the Finance Office for financial management of grants.

2.3 Finance Officer

As the Chief Accounting Officer of the University, the Finance Officer is expected to:

- Supervise the preparation of all research budgets across the University.
- Serve as the custodian of all approved research budgets.
- Design and manage budgetary control mechanisms for all research projects.
- Design standard reporting format for all funded research projects and in compliance with funder requirements
- Manage grant reporting deadlines by requesting for reports ahead of deadlines and ensuring that they are submitted by the host units.
- Review financial transactions on funded programmes to ensure that the transactions occur within the project period.
- Appoint External Auditors for a project where the funder does not specify its own external auditor but there is the need for an external audit.
- Periodically review indirect cost rate.
- Periodically review effort and compensation rate for researchers
- Ensure timely payment of indirect cost due the University.
- Update appropriate rules and regulations governing financial transactions.

2.4 Internal Auditor

The Internal Auditor shall, in accordance with the Audit Agency Act, 2003 (Act 658) and in conformity with the standards and procedures provided by the Agency set up under the said Act, is expected to carry out periodic audit of all internal and external projects.

2.5 Provosts of Colleges, Deans of School/Faculties and Heads of Department/Directors of Research Centres

Provosts, Deans and Heads of Department/Directors of Research Centres are responsible for the research and other funded activities that are conducted in their specific units and are accountable for research funds under their control. Their responsibilities include the following:

- Review proposals to ensure that the proposed project is consistent with the research or educational objectives of the College, Faculty/School, Department or Research Centre.
- Review (approve) any co-funding or cost-sharing commitments made.
- Review other commitments in the proposal related to but not limited to space, equipment, materials, staff and all other non-institutional and institutional resources.
- Assess the appropriateness of time commitments made by project team members.
- Commit to the funders requirements and project specific institutional requirements.
- Review any indirect cost rate reduction or waiver and make appropriate recommendations to the Vice-Chancellor.

2.6 Principal Investigator (PI)

The PI assumes the primary leadership role for the development and implementation of a funded project. The administration of funded projects is a responsibility of the University that has been delegated to the OGR and PI. The University has legal and financial responsibilities for the project and is accountable to the funder for the efficient performance of the funded activities as well as the proper use of funds.

The PI is therefore responsible to the University and the funder for the completion of the project activities, and compliance with funder and university policies and procedures. The PI shall ensure that the funds are spent in accordance with the budget, terms and conditions of the grant award, and the close¬out of the project. The PI is thus held accountable for the proper fiscal management and conduct of the project. The PI also has oversight responsibility for all other members of the research team and project staff.

2.7 Other Team Members

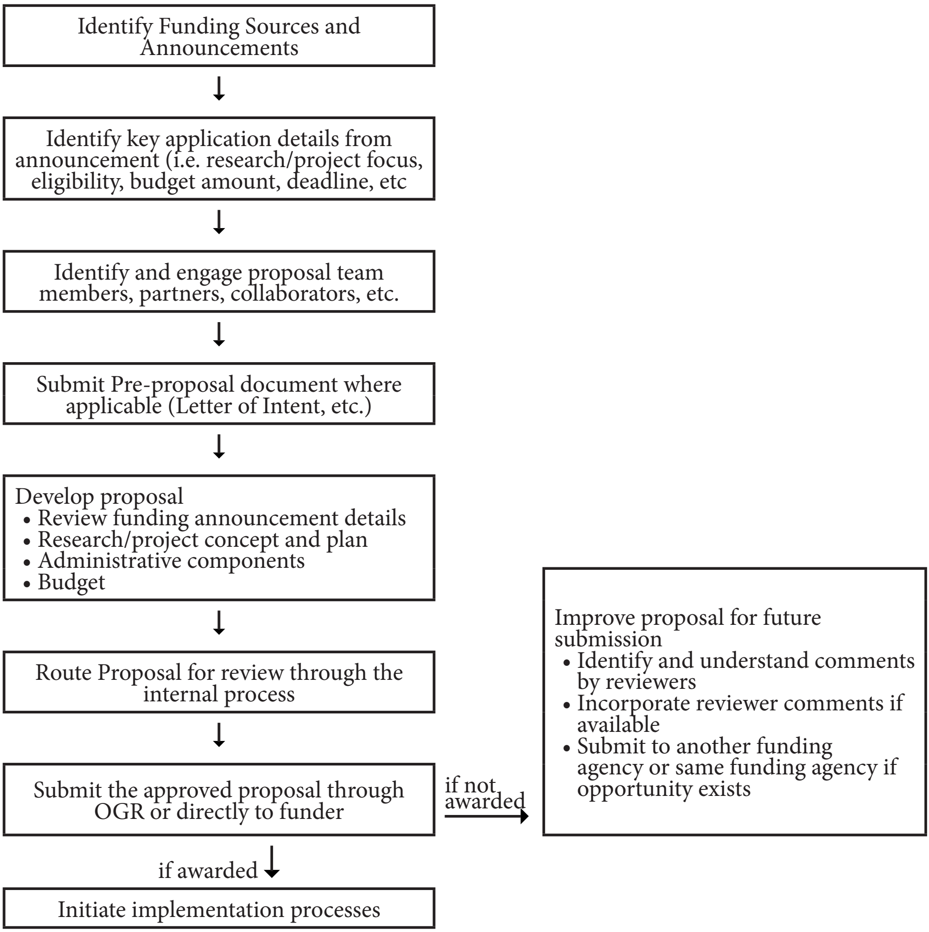
A research project can have Co-Investigators, Project Manager, Project Coordinator, Project Administrator, Accountants, Project Assistants, Research Assistants, Statisticians and other experts. These persons and others perform specific roles to ensure that the project is successfully completed.

3.0 THE GRANT CYCLE

The grant cycle follows a linear configuration that includes identifying the funding opportunity, developing and submitting proposal to the funder, maintaining and managing communications with the funder, reviewing and managing notification of award, negotiating and finalising agreements and successfully implementating the award. The specific actions along the lifecycle are grouped into three main phases described below:

3.1 Pre-Award Stage Flow chart

This process is summarised with a flow chart as shown below.



3.1.1 Identifying Funding Opportunities

OGR will identify and keep a catalogue of active funding opportunity announcements on its website as well as disseminate these opportunities to staff via e-mails. The Office will also maintain a list of sources for funding opportunities including webpage addresses and databases for PI information and use. In addition, information about particular funders, including the deadlines, the review processes, allowable costs, past and present funding priorities and agency personnel may be made available.

3.1.2 Types of Proposals

3.1.2.1 Solicited Proposals

A proposal is solicited when it is submitted in response to a specific solicitation issued by a funding agency. The call can be a Funding Opportunity Announcements (FOA), Request for Proposals (RFP), Call for Proposals (CFP) or Request for Quotations (RFQ). Funders are usually specific in their requirements regarding scientific area or technical content, award budget, deadline and award terms and conditions.

3.1.2.2 Unsolicited Proposals

This type of proposal is submitted to a funder that has not issued a specific solicitation but is believed by the investigator to have an interest in the subject. Some funding agencies are open to receiving unsolicited proposals while others are not.

The PI must determine the suitability of the funding opportunity by reviewing the details of the announcement. Pertinent information to consider are:

- Research or Project Focus
- Eligibility
- Deadline
- Award budget
- Project period
- Funder Requirements

Once a funding opportunity is deemed suitable, a PI can begin the proposal development process in liaison with the OGR.

3.1.2.3 Pre-proposals

A pre-proposal is requested when a funder wishes to minimise an applicant's effort in preparing a full proposal and the funders' efforts in reviewing large numbers of proposals. It may be required for pre-selection purposes, if the funder will be using a two-stage process. Pre-proposals are usually in the form of a letter of intent, a concept note or, an expression of interest. After the pre-proposal is reviewed, the funder notifies the investigator if a full proposal is warranted.

3.1.2.4 Non-Competing Continuation or Renewal of Proposals

This is a proposal for continued support for a project for which the funder has already provided funding for an initial period. This is usually a non-competitive process and the funder provides specific information required for such a proposal. Continued support is usually contingent on satisfactory work progress and the availability of funds.

3.1.2.5 Competing Renewal Proposals

These proposals are requests for continued support for an existing project for which the funder has already provided funding for an initial period. This can be in the form of an open competition or a limited competition (for a pre-determined group of eligible applicants). A funding opportunity announcement is usually made for these proposals.

3.1.3 Proposal Development Process

This section outlines generic processes for proposal development, which can be adopted or adapted by potential PIs. The OGR will provide assistance with the process especially on the administrative and budgetary components. It is important for users of this handbook to note that the format for a proposal is usually defined by the funding agency. Most funders have policies and procedures for submission of proposals and may require the use of specific application forms or electronic web-based systems. Other funders may have less stringent format requirements. In any case, PIs should obtain the most recent version of the funder's application guidelines and should follow the required proposal format to the letter. The PI may also consult the OGR for guidance where necessary.

It is important to write a clear and thoughtful Research Plan (the core of the proposal). Reviewers are likely to use it as a basis for judging the clarity of reasoning and the skill that researchers bring to projects. This is the PI's opportunity to show their expertise and scholarship in their field, their knowledge of the relevant literature and technology, and how they will bring this to bear on their research. PIs are expected to provide details that demonstrate familiarity with related research and methodology and fit this into their proposal. PIs need to take time to develop their strategy and set priorities. The reviewer should be convinced that the proposal has advanced previous accomplishments and provided enhanced solution(s) to the problem(s) in question.

3.1.4 Suggested Proposal Content

This suggested format for a proposal is a general overview and is not in any way comprehensive or exhaustive. (It is for guidance only. Please note that application forms and proposal formats specified by the funder ALWAYS take precedence over this format)

a. Title Page / Cover Page
b. Table of Content
c. Abstract
d. Research Plan
e. Facilities and Resources
f. Consortium/Contractual Arrangements (where applicable)

g. Biographical Sketches
h. Literature References (Bibliography)
i. Budget and Justification
j. Current Support (when requested)
k. Pending Applications (when requested)

3.1.4.1 Title/Cover Page

This page is for providing key information on the proposal including name and contact details of PI, project title, project period, amount requested, institutional information, etc.

3.1.4.2 Table of Content

Very brief proposals with few sections ordinarily do not need a Table of Content; the guiding consideration in this is the reader's convenience. Long and detailed proposals may require, in addition to a Table of Content, a list of illustrations (or Figures) and a list of tables. If all of these are included, they should follow the order mentioned, and each should be numbered with lower-case Roman numerals. The Table of Content should list all major parts and divisions (including the abstract, even though it precedes the Table of Content).

3.1.4.3 Abstract

A paragraph summarising your topic or research problem, who or what will be the object of data collection, how the data will be collected, and what results you expect and possible outcomes of the project.

3.1.4.4 Research Plan

PIs are expected to present a concise project description. The project description must be concise but should give reviewers a firm grasp of what the project is about, how it will be carried out, and what it will accomplish. Lengthy descriptions tend to defeat their purpose. In writing project descriptions, applicants should discuss each of the following aspects of their projects with an experienced colleague.

i. **Introduction**

Introduce your research project from the broader context and focus on the problem you are addressing. The introduction should cover the key elements of your proposal as follows:

- **Background**

  The background should provide information on existing knowledge and practices and the justification for variations thereof.

- **Problem Statement**
  - Explain the problem and its significance for the field
  - State the generality of the problem
  - State the purpose of the study
  - Explain what is to be accomplished by the project
  - Emphasise on the innovations therein

- **Literature Review / Related Research**

  This section must:
  - Show the gap in knowledge that your research will address.
  - Explain how the research will contribute to previous theory or establish new theory.
  - Select studies that provide a foundation for the project.
  - Discuss studies in sufficient detail to aid the understanding of a non-specialist.
  - Describe contributions to the background of the study and show how this project will further them.
  - Demonstrate a mastery of the field's literature.

ii. Specific Aims and Objectives

- List specific aims and objectives that are concrete and obtainable. They are often the criteria for judging the successful execution of the project.
- Hypotheses should be stated where there is a basis for prediction.
- If research is exploratory, research questions are appropriate.

iii. Procedure/ Methodology

- In this section PIs must ensure that the following are further elaborated:
- Specific approach to achieve the objectives; what is to be done and why.
- Activities
- Data Collection
- Outline of broad design of research/experiments to be undertaken, data to be gathered, statistical and other analyses to be made
- Population and sample. Describe the group from which the sample will be drawn, the method of sampling, and the rationale for the sampling method.
- Instrumentation

NB. Unclear plans, unfamiliarity with previous or other current work, and a lack of appropriate methodology are the most frequent criticisms of applications by reviewers and panellists

iv. Significance, Relevance and Innovation

Explain how the completed project will contribute to humanistic knowledge and describe the value of the contribution. Where relevant, explain how the project will contribute to an understanding or alleviation/ solution of problems of national/ regional concern. Avoid overstatement here as it can distort the possible real validity of the application. Explain the novel outputs or innovations that will be realised and the concepts, approaches or practices that will be developed. Also include a statement on the implications for policy.

v. Plan of Work/Work plan/Gantt Chart

State what is to be done, where, when, how, and by whom. If the requested grant period covers only part of the entire project, show clearly what is to be accomplished within the requested grant period. The presentation of clearly defined phases for completion of a project strengthens the research aspect of the project description. Provide a detailed timeline for the expected outputs, milestones and or results/ outcomes. Like the budget, the proposed plan of work is an acid test of an application and can alone elevate it from the level of a good idea to the status of a sound and well- designed project.

vi. Expected Output

The expected outputs may include an article, monograph, book, conference or symposium, policy brief, other dissemination tools, improved practice, patents, discoveries etc.

vii. Personnel

The proposal should describe the professional competence and experience of the PI and other investigators especially in relation to the proposed research area. Bio-sketches and CVs should be included, where necessary.

3.1.4.5 Facilities and Resources

This section of a proposal should:

- Provide an overview of KNUST.
- Describe the types and adequacy of facilities, equipment and populations available to pursue the project.

Specify the resources that will be used by the project and what needs to be provided by the project. In general, this section details the resources available to the proposed project. It shows why the funder should select this University and this investigator (together with any collaborators) for this particular research. Some relevant points may be the institutions demonstrated competence in the pertinent research area, its abundance of experts in related areas that may indirectly benefit the project, its supportive services that will directly benefit the project; and its unique or unusual research facilities or instruments available to the project. Relevant templates may be obtained from the OGR or College Research Administration Offices.

3.1.4.6 Ethical Consideration

It is important to indicate that issues regarding ethical conduct of research have been considered and the necessary steps the team will be taking to ensure adherence with ethical requirements have been outlined. This must be the case with research involving human populations, animals and human subjects.

3.1.4.7 Progress Report

A progress report is included if the proposal is a renewal, continuation, or supplemental proposal.

3.1.4.8 Consortium Arrangement (If Applicable)

If the proposal is being submitted in collaboration with other partner institutions, a statement describing the nature and justification for the collaboration should be included in the proposal.

3.1.4.9 Project Management Plan

This section describes the management plan for the project including the personnel involved and how they will relate to each other, as well as the conflict resolution measures that will be taken, should there be any conflicts. It also outlines the various management activities.

3.1.4.10 Biographical Sketches/CVs (for all key personnel who will work on the research)

This section of the proposal generally includes the under-listed information about the project team:

- Name
- Official title
- Education (bachelor, postgraduate, postdoctoral with institution, degree, year, and field at each level)
- Work experience (start with present position, list all employment)
- Research and/or professional experience (list relevant research projects and role)
- Honours and achievements
- Track record of attracting and managing donor research funds
- Major research interest
- Role in the proposed project
- Professional affiliations
- Personal Publications (relevant to the subject area of the call for proposal)

Attention must always be paid to the length, word count, and word processing requirements.

3.1.4.11 References

Make sure the references follow a recognised format, and do so consistently.

3.1.5 Proposal Budget and Justification

The PIs play a critical role in the budgeting process. PIs are expected to work with Research Administrators and Accountants to develop the budget. The budget should reflect the methodology described in the proposal. Reviewers should be able to determine if sufficient funds are being requested to successfully complete the project, and that those requests are reasonable given the scope of work. Accuracy and detail are essential in budgeting for any proposal. PIs should follow the sponsor's guidelines exactly and provide information in the format specified in the proposal guidelines. Budgeting costs can be grouped into Direct and Indirect costs. Sponsors would normally specify how budgets should be presented, what costs are allowable and the types of costs that could be budgeted for including personnel, non-personnel, administrative, and overhead expenses. Justifications for requested expenditure should always be included.

3.1.5.1 Full Cost Budgeting

KNUST practices full cost budgeting. PIs are expected to develop a budget that captures the complete cost of all activities of the project. Even if KNUST will make an institutional investment into the project in-kind or in cash, it is recommended that PIs develop a full cost budget, and then allocate the appropriate cost to the funder.

3.1.5.2 Cost Principles

The University requires that PIs adhere to the following cost principles during budgeting and actual expenditure:

- Reasonable - Prudent price to pay for an item or activity
- Allocable - There is a direct relationship between the expenditure and a project activity
- Allowable - The cost adheres to the funder's terms and conditions
- Consistently Treated - Costs are treated the same in like circumstances at the institutional level
- Verifiable - The basis for the estimation and expenditure can be verified with the appropriate documentation

3.1.5.3 Direct costs

The following direct cost categories are typically used in most proposals:

a) Personnel (Salaries and Wages)

PIs are expected to determine the names and positions of all key and support personnel. The "level of effort" or other measure of time commitment to the project for each individual needs to be determined. Generally, salary support for administrative and other support staff cannot be requested in a grant budget, unless the project requirement for these personnel is much greater than the level of routine services the academic/ administrative Department provides. When funding agencies make such specific demands, contact OGR for the necessary assistance.

b) Equipment (Supplies, reagents, vehicles and physical structures)

PIs are expected to list each item of equipment that will be needed on the project and provide an adequate justification of the need for each requested item. PIs should show equipment items, including the cost (obtained from the most recent catalogue or from price quotations), and the costs of directly related expendable supplies, computer usage, publications, and any other miscellaneous expenses.

c) Travel

Projects may involve travel. In such circumstance, PIs are expected to describe the purpose and destination, when known, for the trip(s) and the individual(s) for whom the travel funds are being requested. Airfare cost, ground transportation and per diem can be budgeted for. The process of approval and documentation must adhere to the KNUST and funder's regulations.

d) Consultancies and Professional Services

The PI is expected to indicate the name, when known, of each consultant and itemise costs including number of days, daily rate of pay, travel, and other related costs. A Letter of Intent to participate in the project from the consultant should be appended to the proposal. Please note that some funding agencies have limits on daily fees.

e) Participant Support Costs

The PI is expected to determine allowable participant support costs for items such as stipends or subsistence allowances, travel allowances and registration fees paid to or on behalf of participants or trainees (but not employees) in connection with clinical trials, treatment costs, surveys, meetings, conferences, symposia or training projects. PIs are expected to adhere to funder requirements on this.

f) Publication Costs

The PI is expected to list the number of publications to be made and cost each of them.

g) Other Direct Costs

The PI is expected to itemise other direct costs by category, such as graphic services, photography, maintenance and service agreements, computer charges, rentals and leases, service centres, tuition/fees, animal costs, and Institutional Review Board (IRB) fees. See Annex (2) for examples of items that attract direct costs.

3.1.5.4 Indirect Costs

Indirect costs are costs that the university incurs in the process of providing services and facilities for projects but that cannot be charged either wholly or pro-rated, to a particular project as a direct cost. These are also termed as “facilities and administrative” or “overhead” costs. PIs must budget for all allocable requirements as direct costs. PIs are expected to use the maximum indirect cost (IDC) rate allowed by the funder.

If not specified by the funder, the PI must use the KNUST institutional IDC rate (Refer to Indirect Cost Rate Policy). The PI should be able to differentiate between direct and indirect costs. If a PI is considering any of the expenses as a direct charge to an award, s/he must provide an adequate justification for that in the proposal.

3.1.5.5 Cost Sharing

If requested by the funder, the PI is expected to provide cost-sharing information. If cost-share is in kind, the PI must specifically indicate so, with the details and the monetary value. If the cost-share is in cash, this must also be indicated. PIs are expected to get the appropriate approvals and signatures for cost-sharing commitments from their Head of Department/ Director of Research Centre, Dean or Provost, and Vice Chancellor. In the case of non-KNUST cost-shared items, a letter from the source suffices.

3.1.6 Other Requirements

Funders will sometimes require information on other research support being received by investigators or other pending applications, either at the time of proposal submission or at the time of award, if the proposal is successful. The following details should be provided if such a requirement is indicated:

- Funding agency and grant/contract number
- Title of project
- Total award
- Period of support
- Percent of time spent on project

3.1.6.1 Pending Applications

If the PI has no other applications pending, this should be stated. If this proposal is being submitted to other agencies, state this fact and provide the following information:

- Agency
- Title of project
- Total amount
- Period of support

3.1.7 Proposal Commitments

Principal Investigators are to note that when a proposal is submitted to an external funder, a wide range of infrastructure, technical, and financial commitments are made and/or implied. In the event an award is made, it becomes critical that the promises made are delivered. These may include:

3.1.7.1 Direct Commitments

a. Time and effort
   The Project may have the following personnel in place:
   - Principal Investigator (PI)
   - Other Key Personnel
   - Postdocs
   - Graduate Students
   - Undergraduate Students

b. Facilities
   The Project may have the following facilities in place:
   - Laboratory space
   - Office space
   - Classroom space

c. Equipment
   The Project may have the following facilities in place:
   - Computer use
   - Scientific equipment use
   - Machine or other shop use
   - Vehicle use

3.1.7.1 Peripheral Commitments

The Project may need the services of other staff/resources of the University. These may include:

- Departmental Staff and other resources
- Research Administrators
- Research Accountants
- Any Office/Department services used in connection with the award

3.1.8 Best Practice

To ensure adherence to best practices, the PIs are expected to:

a. Read the proposals of other investigators in their fields.
b. Look at the strategy of the proposals.
c. Start modestly and concentrate on proposals that are within their capability and that have realistic budgets.
d. Re-read the proposal through the eyes of the reviewer and rework the proposal until it is absolutely clear.
e. Seek advice from senior colleagues who have grant experience. Ask them to read and criticise your proposal. See if they understand what you are going to do.
f. Make sure that you follow agency-specific guidelines when preparing your proposal

To avoid potential mistakes PIs are expected to:

a. Send proposals through stipulated channels with assistance from the Office of Grants and Research.
b. Use the funding agency or university format, which the Office of Grants and Research provides.
c. Be completely honest.
d. Avoid including unrequested materials, massive documentation, or excessive details. These can distract the reviewer from the point of your proposal.
e. Present a realistic budget. Budget the appropriate personnel for the expertise needed. The sophistication of the PI comes through in the budget and justification of the budget.

f. If site visits by funding agency representatives occur, keep them business-like; they are not social occasions.
g. If your proposal is rejected, ask the funding agency for the reviewers' comments on your proposal (These are not available until the funding decision has been made). These comments are most useful when you rewrite your proposal and submit again. If your proposal is funded, the reviewers' comments are still valuable; you can take their opinions into consideration when you submit your next proposal.

3.1.9 Institutional Proposal Review Process

3.1.9.1 Review Process

Institutional reviews of proposals prior to submission are necessary and beneficial to both the Principal Investigator and the Institution. Proposal review processes serve the following purposes:

- Valuable inputs to the proposals are made by reviewing units
- Institutional endorsement of the proposal
- Enable updated institutional data on proposals and success rates
- Facilitate good institutional research information and metrics
- Prevent disqualification due to multiple proposals from same institution in limited submission calls
- University's interests are protected

3.1.9.2 Review Considerations

During the review process, the following are examples of considerations made:

- Proposals are reviewed for compliance with University and funder requirements
- PIs and/or Departments are alerted to potential problems with the funding source (i.e., onerous reporting requirements etc.)

- Information provided related to any required assurance checked for accuracy and completeness (i.e., use of human subjects or animals, lobbying, medical insurance for project staff, etc.)
- Approval is obtained for any unusual funder requirements, such as waiver of indirect costs or restrictions on dissemination of results
- Cost-share commitments and/or matching funds are verified and the necessary approvals sought.

Proposals for review must be submitted together with all relevant documents at least one week before the deadline for final submission. The proposal and its accompanying documents should be sent to ogr@knust.edu.gh and the office notified.

3.1.9.3 Proposal Submission

Before the final submission of the proposal, PIs are responsible for the following:

- Ensuring the accuracy of the information provided in the proposal, including the scientific and intellectual direction of the project.
- Maintaining compliance with all University and funder requirements for the design and scheduling of the proposed project.
- Obtaining agreement to participate from all proposed collaborators and consultants.
- Completing materials in a timely fashion to allow for review, processing, and submission to the funder by the deadline.
- Verifying documentation for subcontractors and/or consultants.
- Reviewing proposal routing form for appropriate signatures and PI compliance with relevant special reviews.
- Verifying indirect cost rates.
- Reviewing proposed budgets.

3.1.9.4 Mail or Courier Submission

The PI should note the number of copies of the proposal required by the funder and the deadline for submission of proposals, if it is a hard copy submission. One complete copy of the proposal should be submitted to the OGR for the files. The PI is responsible for ensuring that the correct number of copies of the proposal is delivered to the funder.

3.1.9.5 Electronic Submission of Proposals

In view of the fact that many funders require or allow electronic submission of proposals, PIs should take note of all e-mail addresses where proposals, should be sent to.

3.1.10 Deadlines

A receipt deadline is the date by which the funder must receive the proposal. In most cases, a proposal will not be considered if it misses the agency's deadline. For hard copy submissions, PIs are to ensure that their proposals are received by the funder by the deadline. Some funders use postmark deadlines (meaning that the proposal must be postmarked by the deadline date irrespective of when the funder receives it). As a precaution, it is recommended that proposals should always be received by funders by the deadline. Electronic proposal submissions have specific requirements concerning deadlines, which should be consulted.

Attention must be paid to time zone differences and the deadline time zone specified by the funder. Electronic submissions are usually rife with several challenges (including submission system failure, bounced proposals as a result of errors, power outages and internet challenges). It is therefore advisable for PIs to familiarise themselves with the application forms and requirements in the submission systems early in the proposal development process. **It is highly recommended that PIs ensure that their proposals are submitted a day or two before the deadline to ensure that**

any errors or challenges can be addressed without missing the deadline.

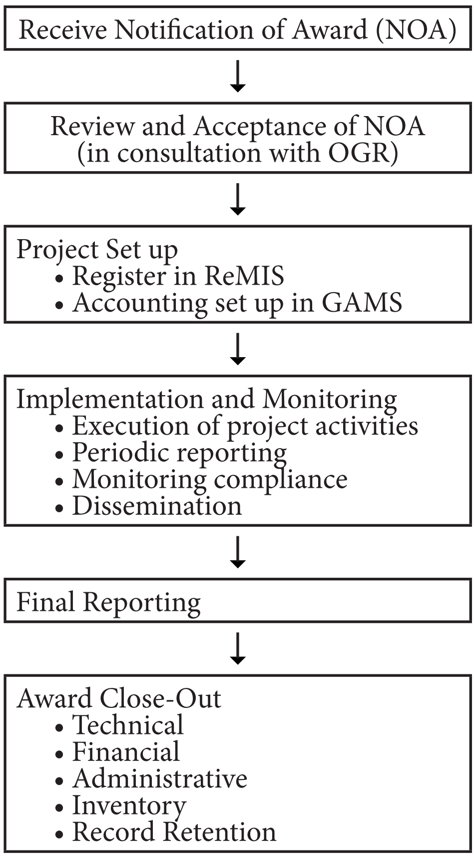
If you have any questions about the deadline requirements for your application, you can contact the OGR for assistance.

3.2 Post-Award Stage

The Post-Award stage comprises the implementation and finalisation of the project. This includes the execution of all planned activities, narrative and financial reporting progresses and completing the close-out requirements.

3.2.1 Award and Post-Award

This process is summarised with a flow chart as shown below.



3.2.2 Award Acceptance (Review, Negotiate and Accept)

All research and training grant awards must be submitted to the OGR for review of terms and conditions to ensure acceptability and compatibility with University policy. The OGR works in consultation with the Legal and Welfare Office in reviewing awards to ensure that the interests of the University and its staff are protected.

3.2.3 Types of Award Instruments

3.2.3.1 Grants

Grants are agreements with external funders of entities where the funders provide resources to an eligible entity to carry out an approved project or activity. They are usually less restrictive than contracts

3.2.3.2 Cost-reimbursable Contracts

For cost-reimbursable contracts, a funder pays all of the allowable expenses up to the stated amount for the research. If any of the committed funds remain unspent, the University is not entitled to them. The PI must ensure that funds are returned to the funder/sponsor.

3.2.3.3 Fixed-price Contracts

Funders agree to pay the stated amount for the product (usually a technical report) for fixed price contracts. If there are funds remaining at the end of the project, the University is entitled to keep those funds. If there are no more funds available and the University has not yet completed the work, it is the responsibility of the University to complete the project. Therefore, the Unit and PI should take this into consideration before accepting a fixed-price contract.

3.2.3.4 Cooperative Agreements

Cooperative agreements are similar to grants. The main difference between a Grant and a Cooperative Agreement is that the grantor and the other parties will be substantially involved with the grantee during performance of the activity. They are partners as opposed to patrons of the grantee.

3.2.4 Project Set Up

Once negotiations have been concluded and an agreement has been signed or unilaterally forwarded to the Office of Grants and Research, PIs are expected to work with College Research Administrators to register their grant in the University's Research Management Information System (ReMIS). A unique code is generated for the grant. The PI then submits the evidence of registration to the appropriate Finance Office to enable the establishment of an internal account for the project in the Grant Accounting Management System (GAMS). This requires that the budget lines and amounts are fully captured for effective monitoring and reporting. All PIs are expected to obtain certification on mandatory training on ReMIS and GAMS.

3.2.5 Project Implementation and Monitoring

Once the registration and setting of accounts are completed, PIs and their teams can then carry on with the activities of the project. During implementation, the PI is expected to monitor the project's compliance to funder and institutional requirements such as ethical conduct of research, approvals for the use of human or animal subjects, conflict of interest, and allowable expenditure as well as the terms and conditions stipulated by the funder in the Agreement.

3.2.6 Award Budget Revisions

This happens when a PI revises the budget of the award, which has already been approved by the funder. To effectively manage any award is to stay within the originally agreed budget parameters. It is not uncommon to need budget revisions. The PI cannot however simply change the budget as each funder has specific policies when it comes to budget modifications. This is typically outlined in the award and/or the terms and conditions and/or the funder's policies, and must be adhered to in the management of a project. If the PI needs to modify the budget, they must work with the OGR and the funder to ensure that such modifications follow due process.

3.2.7 Change in Scope of Work or Amount of PI Effort

A significant change in the scope of the work or amount of effort spent on a project by the PI usually requires prior approval by the funding agency. If PIs become aware that they will devote substantially less effort to the work than anticipated in the approved proposal, they have to advise the funder's programme officer (or the primary grantee in the case of a sub-award). The OGR will assist PIs in this process and therefore should be the first point of call. If it is determined that the reduction of effort might impair a particular project, the funder may accept the PI's proposal, request that the University nominate an acceptable replacement PI, initiate termination procedures, or negotiate an appropriate modification to the grant. In addition, each project budget or award designates levels of effort a PI and other project staff will devote to the project. Changes in effort generally have a ripple effect on the budget as well as the project deliverables, and can significantly affect the terms of the research agreement. If any changes are expected to the effort, the PI must contact the OGR to assist with the process and ensure funder and institutional requirements are adhered to.

3.2.8 Change in Principal Investigator

If a PI becomes aware that they will no longer be able to fulfil the PI role due to one reason or the other, they have to contact the OGR immediately. The institution has to initiate discussions with the funder (or the primary grantee in the case of a sub-award). The funder may request that the University nominates an acceptable replacement PI or initiate termination procedures, or negotiate an appropriate modification to the grant. All requests to change the PI must have appropriate University approval through the OGR as well as that of the funder. Reasons for the change together with curriculum vitae for the proposed new PI should accompany the request.

3.2.9 Inventions and Patents

The following should be adhered to by all parties in respect of Inventions and Patents:

a. All University Employees and all other individuals, paid or not, who are working on extramurally-funded research projects, or who are using University facilities, including unsalaried visitors, must sign the KNUST patent acknowledgement form. The PI is responsible for ensuring that this is done by everyone who participates in the research project.
b. PIs should direct their research so that a potentially evolving patent occurs under a single funding agency. If development or use in research overlaps from one agency to another, conflicting patent rights could impede the development of the device, product, or process. PIs must contact the OGR if such a problem is possible in their research providing reasons involving multiple funding agencies.
c. If a device, product, or process evolves from any research project, a complete written disclosure must be made promptly and directly by the inventor to the Director of OGR of KNUST. This must be done prior to publication or disclosure outside of the University. The form may be obtained from the OGR. (Refer to Intellectual Property Policy of KNUST for relevant information and details).

3.2.10 Reporting

3.2.10.1 Periodic/Interim Reporting

The PI is expected to provide financial and technical progress reports as often as required by the funder on a fixed schedule throughout the lifetime of an award. These reports provide the funder with assurance that activities are moving forward according to the terms of the agreement. Some funders require externally audited annual project accounts as part of the periodic reporting. Reporting requirements are usually specified by the funder either at the time of award and/or during the implementation period. The PI is responsible for making sure all progress reports are submitted to the funder on time. Failure to provide the required reports can result in funding delays in multi-year awards, early termination of the award by the funder, or lead to the PI's inability to apply for any future awards.

3.2.10.2 Final Reporting

Similar to the interim reporting, funders will specify the requirements for final reporting. Some of the components usually required include technical report, externally audited financial report, publications and inventions and technology transfers. In some situations, the project or the funder will require the dissemination of project findings to other audiences in addition to the funder. PIs should confirm with Programme Officers at the funding agency to ensure that all requirements for final reporting are met.

3.2.11 No-Cost Extensions

The PI may need to request for a no-cost extension to allow for time to finish the work. Some funders allow for the request of a no-cost extension. A no-cost extension is the extension of the project period beyond the original end date without additional funding. It is important to clarify the funder policy on no-cost extensions (if allowed) and follow the required processes. Such request may include a justification and a projected budget that provides a spending plan for any unused funds. The OGR should coordinate this and it should be done within a minimum of 90 days in advance of the award's termination date.

3.2.12 Award Close-Out

Every award specifies an end date; and PIs should plan for the end of the grant. As the end date approaches, the PI will need to consider whether they can complete all the required activities of the project by the specified end date or whether they will need a no-cost extension. When a no-cost extension is granted, all requirements for award close-out will be completed at the new end date.

Both funders and host institutions have their close-out requirements and PIs are required to comply with both. Once the award period officially ends, each funder establishes their own deadlines for the submission of final financial and technical reports, as well as final invoices. The PI should be aware of and ready to meet these deadlines. Typically, the close-out process is smooth, provided that all reports and all expenses have been judiciously accounted for. These will normally include the submission and approval of the technical and financial reports, processes to close out the internal grant account, administrative processes such as human resource issues, inventory (how project assets are handled), inventions and retention of project records. All these processes should be completed per funder and institutional requirements. PIs are required to inform the OGR on the initiation of the close-out process.

Once all close-out processes are completed, the project is deemed 'closed-out' and no longer active. All records on the grant are however kept safe as the funder or the university can make a future information request regarding the grant (For details, please refer to the KNUST Policy on Close-out).

3.2.13 Sub-Awards

When a collaborator engages directly in the development of the proposal and/or performance of the specific aims of the project, that collaborator is given a sub-award of the primary grant. KNUST can either give or receive a sub-award from another institution. KNUST and the awarding institution or the sub-award institution should mutually agree on how the substantive work will be performed and how it will be measured. In the case where KNUST is the prime applicant/grantee, the following processes are followed:

a) Proposal Stage

The PI will determine the potential need for a sub-award at the proposal stage. Most funding agencies require written approval before a sub-award is issued. Depending on the proposal guidelines from the funder, other information, such as letter of intent, biographical sketches, current and pending other supports and available facilities information, may also be required.

The following information is normally requested from the potential sub-recipient.

- The scope of work to be completed by the sub-recipient.
- A budget that meets the requirements of the sponsor and KNUST.
- A Letter of Intent with an authorised signature indicating the potential subcontract, institution's commitment to perform the proposed scope of work, assuring the accuracy and reasonableness of the budget, and agreeing to enter into a subcontract if the proposal is funded
- All required representations, certifications and assurances (e.g. human subject assurance).

The budget consists of a categorical breakdown of sub-recipient costs, which could include both direct and indirect costs, if allowed by the funding agency. If indirect costs are included in the potential sub-recipient budget, a copy of their most current Indirect Cost Rate Agreement must be provided to the Office of Grants and Research for verification of the rate used in the budget. The budget should also show a categorical breakdown of sub-recipient's cost sharing, if cost sharing is required. The scope of work outlines the work to be accomplished by the sub-recipient. If there is a revision of the proposal or budget after the review, the KNUST PI would contact the sub-award PI for the required revisions. All revised documentation from the sub-recipient would once again require an institutional/organisational authorised representative's signature.

b) Issuing the Sub-Award

- After the awarding agency has approved the proposal, the following will apply:
- The PI initiates the issuance of a subcontract by contacting the Office of Grants and Research with a copy of the award and the sub-recipient's budget and statement of work.
- The OGR, in consultation with the Legal and Welfare Office, will prepare the subcontract in accordance with funder guidelines and regulations as well as KNUST policies and procedures; and ensure that the sub-recipient has supplied all required information.
- The period for the sub-award agreement should not be longer than the period for the prime award. The agreement will include the scope of work, budget and reporting requirements.
- The OGR will send the Sub-Award Agreement to the sub-recipient for signature by an authorised institutional official.
- Sub-recipients are requested to return the signed subcontract, along with any supporting documents as needed (e.g., audit certification, Indirect Cost Rate Agreement, etc.), to the OGR for counter signature by the University.
- When this process is completed, it means the sub-award has been fully executed. The fully executed sub-award agreement is then sent to the sub-award institution.

3.2.14 Amendments

During the period of a sub-award, it may become necessary to amend the terms of the agreement to incorporate any changes. This could be as a result of any of the following changes:

- Change of scope of work
- Increase or decrease in funding
- Revision of the sub-award period of performance
- Modification or addition to the terms and conditions
- PI change for prime awardee or sub-recipient

A request for sub-award amendment will need to be initiated by the PI. The OGR processes amendments to all sub-awards.

3.2.15 Process for Advance Payments and Cost Reimbursement

Once the sub-award agreement is fully executed, the sub-recipient can either request for an advance payment and/or cost reimbursement. If an advance payment is required, a justification for the need should be provided. Subsequently, a report on expenditure and an invoice is presented to process additional payments. For cost reimbursements, the sub-recipient presents invoices in arrears for payment in accordance with the sub-award agreement.

3.2.16 Close Out of Sub-Award

Once a sub-award agreement has ended, close-out documentation will need to be sent to the sub-recipient to ensure all deliverables have been successfully completed and the final invoice has been paid. This process will be completed and signed by the sub-recipient certifying that all deliverables have been completed. KNUST will also have to ensure that all payments have been made.

3.2.17 KNUST as Sub-Recipient

In the case where KNUST is the sub-recipient, the prime award institution will issue the sub-award agreement, ensure that all information from KNUST has been received and KNUST has received a fully executed agreement. The prime award institution also monitors KNUST's performance and processes payments in accordance with the sub-award agreement.

4.0 DEFINITIONS

- **Principal Investigator (PI)**
  PI refers to the person who assumes the primary responsibility for the conduct of funded projects. He/she ensures that the project is conducted by those with the requisite skills and training on grants management.

- **Direct Costs**
  Direct costs can be defined as "costs that can be identified specifically with a particular funded project, or that can be directly assigned to activities that will enhance the implementation of a project".

- **Indirect Costs**
  Indirect Costs are defined as those costs that are incurred for common or joint objectives and therefore cannot be identified readily and specifically with a particular funded project, instructional activity, or any other institutional activity.

- **Sub-Award**
  Sub-Award is an agreement that is written under the authority of, and consistent with, the terms and conditions of a prime award, and authorises a portion of the substantive effort to be performed by another organisation.

- **Funder/ Sponsor**
  Funder or sponsor is a person or organisation that provides money for a particular project.

APPENDICES

Annex 1: Summary of Roles and Responsibilities

	KEY ACTORS AND RESPONSIBILITIES				
Grant Stage	**Vice Chancellor**	**Office of Grants and Research (OGR)**	**Provost/ Deans/ HODs**	**Principal Investigator**	**Co-Investigators/ other team members**
Pre Award	• Ensure appropriate research-related policies are developed and implemented	• Identify funding opportunities and disseminate to researchers • Review research proposal to conform with institutional policies • Review of commitments made in the proposal and advise accordingly • Ensure timely submission of application	• Review of proposal to ensure its consistency with college educational/ research objectives • Review of commitment made in the proposal.	• Leads in the research proposal development • Ensures timely submission of proposal to OGR for review and support	• Support PI in the proposal development process

	KEY ACTORS AND RESPONSIBILITIES				
Grant Stage	**Vice Chancellor**	**Office of Grants and Research (OGR)**	**Provost/ Deans/ HODs**	**Principal Investigator**	**Co-Investigators/ other team members**
Award	• Oversee acceptance of awards from sponsors • Create a favourable environment for the implementation of research projects	• Protect the University's interest by coordinating administration of grants with PI and the Colleges. • Serve as institutional liaison between KNUST and donor • Ensure that grants are set up in ReMIS and GAMs	• Ensure proper set up of Award in the College/ Department • Accountable for the proper fiscal management and conduct of the project • Monitor and ensure timely submission of project reports	• Leads in the implementation of the project • Prepares and submits accurate and timely project reports to donor • Ensures that the funds are spent in accordance with the budget, terms and conditions of the grant award	• Work together with PI to conduct research activities as approved by donor
Post-Award	• Provide necessary policies to guide the closure of the project	• Assist PIs in closing out Projects • Advise and monitor compliance with policies and assist in responding to sponsors' requirements • Ensure that PIs comply with closure requirements as stated by donor and or by the University	• Commit to funders requirements and project specific requirements	• Take accurate stock of project assets and liabilities and notify the donor • Ensure compliance with closure requirements as stated by donor and or by the University	• Help in closing accounts of the project by performing their specific roles.

Annex 2: Examples of items considered as direct cost

OFFICE OF GRANTS AND RESEARCH (OGR) BUDGET LINES TEMPLATE FOR FUNDED PROJECTS	
CATEGORY	**DIRECT COST EXAMPLES**
Category 1	**PERSONNEL**
	Key Personnel
	Principal Investigator(s)
	Co-Investigator(s)
	Mentor(s)
	OTHER PERSONNEL
	Post-doctoral Associate
	Graduate Students
	Undergraduate Students
	Research Assistant
	Technicians
	Programmers
	Nurses/Lab Assistants/Other Paramedical Staff
	Administrative Assistants
	Project Administrators/Managers
	Clerical/Secretarial Assistants
	Project Assistants
	Statisticians
	Laboratory Technicians
	Website Developers
	Project Coordinators
	Accountants
	Accounting Assistants
	Librarians/Library Support Staff
	System Analysts
	Study/Clinical Coordinators
	Editorial Assistants
	Data Managers/ Analysts
	Consultancy Services

OFFICE OF GRANTS AND RESEARCH (OGR) BUDGET LINES TEMPLATE FOR FUNDED PROJECTS	
	Tabulators
Category 2	**TRAVEL**
	Domestic Travel
	Airfare
	Ground Transportation
	Field Trips
	Per Diem
	Accommodation
	Foreign Travel
	Airfare
	Subsistence
	Travel Insurance
	Ground transportation
	Per Diem
	Accommodation
	Access Charges of External Facilities
Category 3	**MATERIALS AND SUPPLIES**
	Computer/Accessories
	Office Supplies
	Internet
	Laboratory Supplies
	Test Materials/ Samples
	Electronic Supplies
	Printing
	Consumables
	Animal Costs
Category 4	**CAPITAL ITEM**
	Laboratory Equipment
	Machines
	Vehicles

OFFICE OF GRANTS AND RESEARCH (OGR) BUDGET LINES TEMPLATE FOR FUNDED PROJECTS	
	Buildings
	Specialised Equipment
	Equipment Installation / Incubation
	Equipment Spares/Software
	Alterations/Renovations
	Maintenance / Relocation Charges
Category 5	**EDUCATIONAL GRANT - PhD/MSc**
	Participant/Trainee Support Cost
	Software Programmes
	Computer Services
	Stipends
	Tuition
	Laptops
	Accommodation
	Workshops, Seminars and Courses
	Conferences
	Publications
	Research Materials (Chemicals, Reagents etc.)
	Data Collection
	Curriculum Planning & Materials
	Supervision Allowances
	Purchase of Data, Periodicals, Books
	Travel costs (especially for International Students)
Category 6	**SUB-AWARDS/ CONTRACTUAL COST**
	Management and Legal Fees
Category 7	**OTHER DIRECT COSTS**
	Equipment or Facility Rental/ User Fees (Fixed / Immovable, Movable, Office Equipment)
	Office Space

OFFICE OF GRANTS AND RESEARCH (OGR) BUDGET LINES TEMPLATE FOR FUNDED PROJECTS	
	Utility
	Internet Service
	Audit Cost
	Patient Reimbursement
	Institutional Review Board (IRB) Fees
	Purchase of Data, Periodicals, Books
	Production, Press and Marketing
	Skills Development
	Community Engagement
	Capacity Building
	Ethics Review Cost
Category 8	**MONITORING AND EVALUATION**
Category 9	**FACILITIES AND ADMINISTRATIVE COST (INDIRECT COST - 22% of Direct Cost)**