UNIVERSITY OF GHANA PAN AFRICAN DOCTORAL ACADEMY (UG-PADA)

MODULE DESCRIPTIONS FOR THE JUNE 2017 DOCTORAL SCHOOLS

Module: **Managing the PhD Process**

The process of obtaining a doctoral degree can be a difficult, long and lonely journey. It requires persistence and a plan to deal with resources, time and people. Having these skills will make your journey to a PhD less stressful and will guarantee that you will finish your thesis in good time.

The module is designed as a practical "*how-to*" guide and, therefore, is conducted in a seminar style, with emphasis on sharing of experiences between instructors and participants, and on peer learning. It also seeks to provide a template to help with the literature review process. In addition, the module incorporates exercises and assignments that encourage you to individually reflect on and put into immediate practice what you learn.

Module: **Quantitative Research Techniques Using SPSS**

This course introduces participants to basic quantitative techniques for social science research. It treats quantification as an integral part of research and examines the theory and application of standard quantitative techniques, from descriptive statistics through inferential statistics to multivariate techniques. Also, students will be introduced to the main philosophies underlying both quantitative and qualitative methodologies to help ground them properly in research design. The main philosophies underlying both quantitative and qualitative methodologies are explored. Much of the course is done in a computer environment with the aid of the Statistical Package for the Social Sciences (SPSS) on Windows. In particular, the course will help participants to understand the conditions under which different statistical tools are applicable. A broad approach is taken to give participants ample opportunity to critically assess the rationale, theories, and concepts behind the various statistical techniques. The course places emphasis on the "*how-to,*" as against the "*what-is*," aspects of quantitative application in social science research. In consonance with this approach, participants will learn how to design a structured quantitative questionnaire and code and analyze the ensuing data, using SPSS. The ultimate aim is to equip participants with the necessary statistical tools for social science and humanities research.

Module: **Communicating Research Results – Science**

"Science, ever since the time of the Arabs, has had two functions; to enable us to know things and to enable us to do things". (Lord Bertrand Russell (The impact of science on society))
The essence and end result of scientific research is to disseminate information for the use of other scientists and society in general. In the absence of exchange of information, there is no science. But for the information to be useful to its intended target, it must be communicated clearly and effectively. Scientific communication is all about the role of the written word in communication and comprehension of scientific ideas. Scientific writing and communication normally occur between the scientist and:
   • other scientists within the same discipline.
   • other scientists in related or unrelated disciplines.
   • non-scientific academics.
   • the general public.
All these have their stylistic requirements, and specific skills to achieve competence. Effective scientific writing skill is both a science and an art.

Module: Innovative Thinking in Teaching and Learning

This course focuses on how to build a competitive advantage with emerging technologies by fostering a culture of innovation based on **creativity and problem-solving, critical thinking, communication, collaboration and computational thinking (the 5Cs)** for the **21st Century** learning community. As participants explore the value of innovative thinking at all levels of meaningful learning, they will evaluate the habits of innovative thinkers and engage in assignments that put their new knowledge, skills and creative mindset to the test to tackle a critical challenge facing their scholarly pursuits. Using India as a Case Study, they will have a ready reference for the opportunity to analyze the attractiveness of African countries as partners for innovation collaboration in science and technology. [Our approach is learner-centered within the context of participants' own learning experiences towards the building of community of learners.] The programme will meet during some regularly scheduled class times, and use other on-line technology to deliver course materials through the course website hosted at the University of Ghana's [SAKAI Learning Management System.]

Module: Academic Writing

This is a one week module which is designed primarily to provide training in academic writing for PhD. Students. Conducting original and innovative research and having enough numbers to justify sound statistical conclusions are necessary, but not the only considerations in scholarly research; equally crucial is an efficient means for communicating findings to the broader research community. This module will to help doctoral students master scholarly writing in order to engage more confidently in conversations in their disciplines. It will train participants in effective scholarly writing including reasoned, well supported arguments that astutely draw on multiple sources and viewpoints. Participants will be taken through interactive sessions on aspects such as scholarly argumentation, writing style and language, punctuation and mechanics, editing, summarizing and paraphrasing, tense and voice, as well as proper citation formats and plagiarism. Samples of scholarly writings will provide students practice in identifying the elements of an effective argument which they can apply in their writing. A range of writing activities—including invention, planning, drafting, revision, and editing—will be conducted to prepare participants for various stages of their academic writing.

Module: Leadership Skills and Issues of Career Development for the Emerging Scholar

This module is designed as a practical guide to introduce early and mid-career scholars to the changing profile of the emerging African scholar. It will explore global and African landscapes of 21st-century knowledge production in order to help participants understand the changes taking place in the role and function of the scholar and why the next generation of African scholars are expected to meet new challenges and responsibilities. The University in Africa faces pressures from a global knowledge economy which emphasizes innovation, invention, and genius as hallmarks of a knowledge production agenda summoned to respond to the needs and challenges of the continent. The University increasingly sees early and emerging scholars as the drivers of these new scenarios of knowledge production, hence the notion of career advancement tied to the emerging scholar's aptitude for local innovation and transnational competitiveness, a scenario in which the emerging scholar figures as leader, marketer, and innovator

Module: **Qualitative Methodology**

Qualitative methodology is not a discrete set of techniques or methods but an approach that shapes the entire process of research from choice of research strategy, through data collection and analysis, to write up.   We assume at least an introductory knowledge of qualitative methodology from previous graduate level courses. This course will therefore focus on building practical skills and the confidence to undertake qualitative research. The course will be intensive and interactive, with an emphasis on individual and group exercises.

Module: **Presentation Skills (Conference Presentations, Oral and Poster Preparation)**

This Module is aimed at researchers making presentations to academic as well as non-academic audiences. The principles underlying the delivery of effective presentations apply to scientific talks as much as they do to other public speaking engagements such as political rallies or social talks. The Module will explore important verbal and nonverbal skills, proven presentation structure, and innovative delivery techniques that are the hallmarks of impactful presentations. Through experiential exercises and small group activities, these techniques will be put into practice, test out new approaches, and improve abilities to speak with poise, clarity, and conviction. By the end of this Module, participants will have a good understanding of the essence of a presentation, the major dos and don'ts in oral and poster presentations and how to build verbal and non-verbal communication skills.

Module: **Evidence Synthesis**

The last two decades has seen a paradigm shift in scientific research with evidence synthesis and systematic review emerging as core methods for generating the best possible evidence needed in support of decisions and policies about what works and what does not work. Usually the best ("true") evidence is contained in a number of individual studies scattered across an ocean of literature and there is a danger when one attempts to use the findings from a single study to inform policy decisions, particularly when the individual studies are reaching conflicting conclusions. Systematic reviews pool data from all the available studies to provide an overall best (reliable) estimate. The growing application of evidence synthesis in all forms of decision making underscores the need for scientists and decision makers, particularly contemporary PhD students, to have basic knowledge in this research method.

Module: **Use of Selected Computer Packages for Research Data Analysis: " R"**

R is a free, open-source, flexible and powerful statistical and cutting-edge analytic software used by leading academics and researchers worldwide. It is an excellent and preferred environment for data manipulation, visualization of publication-quality graphs and charts, and for data analysis. The course offers a comprehensive coverage to help participants understand the general usage of R and its diverse applications in statistics and data analysis.
It also introduces participants to basic programming in R. The main goal of the course is to train participants in the use of R software package for data management, manipulation, graphics and analysis