

**SGS COURSE BOOK ON
HISTORY AND PHILOSOPHY OF SCIENCE
(FOR 100-LEVEL STUDENTS: PHL 127)**



PHL 127

Nigerian peoples and Culture

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FROM THE DIRECTOR'S DESK

The production of this course book represents a landmark step in the academic life of the School of General Studies (SGS) at Michael Okpara University of Agriculture, Umudike. It is the outcome of sustained deliberations, careful planning and the institutional will to standardize and strengthen the General Studies curriculum in line with national and global best practices.

At its 240th Academic Board meeting of 4th February 2025, the Board, after extensive deliberation, resolved that the proliferation of individually authored books by lecturers was neither sustainable nor consistent with the integrity of SGS. It was therefore approved that henceforth, every unit in SGS would produce only one standardized course book, to take effect from the 2025/2026 academic session. This decision was further consolidated in the 242nd meeting of 8th April 2025, where the Board set July 2025 as the deadline for units to conclude their drafts. At the 244th meeting of 21st August 2025, the Board refined the process by stipulating clear timelines and ground norms for internal quality assurance. These included that every book must be:

Authored collectively by the team of lecturers in the course.

Uniform in structure and presentation

Cost-effective and student-friendly

Inclusive of index, preface and a foreword by an external professor

Produced in A4 size, not exceeding 100 pages

The Board also resolved that draft copies must be presented for review and quality control before final printing.

This course book, therefore, is not the product of arbitrary effort but the fruit of team authorship, collective scholarship and due process. It reflects the seriousness with which SGS approaches its mandate of nurturing well-rounded graduates through the compulsory General Studies programme prescribed by the Core Curriculum Minimum Academic Standards (CCMAS) and MOUAAU as a University.

I am convinced that this course book stands as a model of institutional authorship and academic integrity. It not only meets the standards set by the SGS Academic Board but also represents a commendable benchmark in the history of General Studies at MOUAAU. It is, therefore, highly recommended for the guidance of all students and lecturers alike.

Signed:

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Ag. Director, School of General Studies

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FOREWARD:

The study of science is, in many respects, the study of human progress. From the earliest attempts by humankind to understand nature and ensure survival, to the sophisticated technological systems that define the modern world, science has remained a central force in shaping civilization. Yet, beyond discovery and innovation lies a deeper intellectual tradition, the philosophical reflection that questions how knowledge is formed, validated and responsibly applied. History and Philosophy of Science (PHI 127) is therefore conceived as an essential intellectual gateway for students entering a rapidly evolving scientific and technological age. This course book has been carefully developed to provide students with a structured understanding of the historical evolution of scientific thought alongside the philosophical principles that underpin inquiry, logic and ethical responsibility. It takes learners on an illuminating journey from prehistoric experimentation and early agricultural practices through the scientific achievements of ancient civilizations, the transformative breakthroughs of the Renaissance and Scientific Revolution, and the dynamic expansions of modern science. By situating scientific development within its historical context, the book demonstrates that science is not merely a collection of facts, but a cumulative and reflective human endeavor shaped by culture, necessity, creativity and critical reasoning.

At Michael Okpara University of Agriculture, Umudike (MOUUAU), where the pursuit of knowledge is closely tied to agricultural innovation, environmental stewardship and sustainable development, this course serves a particularly important purpose. It equips students across disciplines; Science, Agriculture, Engineering, Management Sciences and Education, with the intellectual tools required to analyze scientific ideas, appreciate their societal implications and apply them responsibly. In an era defined by climate change, biotechnology, artificial intelligence and global interconnectivity, the need for scientifically literate graduates who can think critically and act ethically has never been more urgent. The book emphasizes that while science provides the mechanisms for advancement, philosophy offers the compass that guides its application. Students are encouraged not only to understand scientific methods but also to interrogate assumptions, evaluate evidence, and reflect on the moral dimensions of innovation. Such competencies are indispensable for nurturing problem-solvers, visionary leaders and responsible citizens capable of contributing meaningfully to national development and global progress.

Furthermore, this text aligns with the objectives of the General Studies programme and the Core Curriculum and Minimum Academic Standards (CCMAS), promoting interdisciplinary learning and strengthening the analytical capacities expected of university graduates. It is written in a clear and engaging style to support both classroom instruction and independent study, while fostering curiosity about the past, awareness of the present, and preparedness for the future of science.

It is my expectation that this course book will inspire students to see science not only as a discipline but as a transformative way of thinking, one that empowers humanity to confront challenges, expand possibilities and build a more sustainable world.

