

Master of Arts in Education Major in Science Education
COURSE DESCRIPTION

BASIC COURSES

MARES - Methods of Research with Statistics **3 units**

This course covers the fundamental concepts of research design and methodology that practitioners must understand in order to become critical research evaluators and prepare to conduct research in their practices. Understanding each stage of the research process including qualitative and quantitative designs, program evaluation, measurement issues, and data analysis would be emphasized.

MAPHILO - Philosophical and Legal Foundations of Education **3 units**

This course provides an overview of the philosophical and legal foundations of the education system. Students will review local, state, and national policy, legislation, and regulations pertaining to PreK-12 education. Students will also reflect upon how these concepts drive instructional practices in today's challenging classroom environment. Using the cases as a launching point, students will be given opportunities to engage in online discussions, journal reflections, and workbook assignments focusing on beliefs, best practices, challenges, current research, and classroom applications.

MAINS - Instructional Leadership **3 units**

This course focuses on curriculum planning, implementation, and evaluation; and meeting the needs of a diverse learning community through content, social climate, instructional strategies, and the role of the learner. The course includes hands-on as well as theoretical/analytical sides of redefining curriculum; the role of staff, parents, students, and the community at large in curriculum development and planning are considered.

MAJOR COURSES

SE 200 - Global Advances in Science Education **3 units**

The course provides a detailed study of the breakthroughs in science education and the analysis of various educational problems, issues, concerns confronting and science educators.

SE 201 - Curriculum Development in Science Education **3 units**

This course aims to acquaint the students with the philosophical, sociological, and psychological background in curriculum construction in science education, as well as the different modern approaches and evaluation of curricular material furthermore, it discusses the administrative organization for curriculum revision and evaluation with emphasis on the role of teachers in these functions.

SE 202 - Laboratory Course for Science Teachers **3 units**

This course is designed to provide the students with an opportunity to obtain experimental data which can be used to explore various aspects of science. The laboratory work involves a more detailed consideration of a particular topic and the corresponding presentation in class. This course provides a relationship between text and laboratory and furnishes insights into the experimental and theoretical aspects of science

SE 203 - Advanced Topic in Environmental Science 3 units

This course develops numerical literacy in environmental science. Students will assess methodologies from published literature and apply relevant techniques to collected data, developing scientific, analytical, and mathematical skills that can be extrapolated to key environmental problems.

SE 204 - Scientific Research 3 units

This course is an introduction to scientific research through lectures, and discussions and aims to provide in-depth knowledge of research design and methodology and to train the student in writing a research plan and critically reviewing scientific literature. This demands the ability to link the research question, research strategy, theory, and methodology of the experiment.

ELECTIVE COURSES

SE 205 - Modern Trends & Directions in Science Curricula & Instructions 3 units

This course aims to explore modern trends in the field of curriculum and science teaching methods. The focus comprehensively represents contemporary global trends in the science curriculum and science teaching methods: reform movements in teaching and learning science, modern scientific fields and their various branches, methods and strategies for teaching science, science education technology, evaluation of teaching science, and science teacher preparation.

SE 206 - Special Topics for Science Teachers 3 units

The course includes a study of selected special topics for science teachers to give them a deeper knowledge and wider understanding of the components of science teaching.

SE 207 - Science, Technology and Society 3 units

This course exposes the students to complex issues and addresses emerging challenges that have arisen as a consequence of the interconnectedness of systems in the current era. Further, this course introduces methods of scientific thinking and integrative analysis to solve unstructured, real-world problems faced by individuals, organizations, industries, and societies in ways that cut across traditional boundaries of disciplinary thought.

SE 208 - Seminar in the Art of Teaching Science 3 units

This course focuses on the art of teaching science. It gives a wide range of teaching suggestions, strategies, and techniques on how to present science as an exciting and enjoyable experience. It conveys the role of science.

INSTITUTIONAL COURSE REQUIREMENTS

MAJANSSEN - Janssen's Spirituality I

(3 units)

The course is a CHED-approved institutional course provided particularly for students doing graduate courses at the Divine Word College of Calapan. The Janssen spirituality course for MA students which covers the first of two parts will explain the current mission profile of the members of the Society of the Divine Word (SVD) as it flows from an explanation of the development of the spiritual lives and practices of Sts. Arnold Janssen and Joseph Freinademetz. This singular history and spirituality will be further contextualized with other selected spiritualities so that the student can identify and develop a related topic of research relevant to current realities and challenges.

MARESCOLL - Research Colloquium and Seminar in Research Publication (3 units)

This course shall enable graduate students to make structured and periodic progress on their research papers and comply with program requirements. It enables them as well to complete and finish the research paper in time for formal research presentation and even in journal publication.

THESIS WRITING

SETW1- Thesis Writing Proposal - Science Education

3 units

This is a process-oriented writing course that is designed for advanced MAEd students who want to improve their research skills beyond what they learned in methods classes. This course's goal is to get them started on their thesis proposal writing and to become competent in basic research designs, which includes making decisions about matching research designs to specific research problems. Furthermore, students will gain a better understanding of the issues to consider when deciding on the overall evaluation of their research. Students will learn how to develop literature for their research topic as well as potential methodological approaches. The emphasis during this training will be on how to construct a research question that can be empirically addressed. While the primary focus of this course is on thesis proposal writing, it also refreshes them on basic research concepts such as conducting literature reviews, understanding theory, defining research problems and methods, collecting and analyzing data, communicating findings, and applying research to solve educational problems. Students should also be able to understand the goals, assumptions, and logic underlying research methodologies.

MAEDTW2- Thesis Writing Oral Defense

3 units

The final and most important requirement for receiving a Master of Arts in Education is the completion of a substantial and original independent research project. The creation of a master's thesis describing the research project and its results, as well as the defense of the project against challenges posed by the student's faculty, Thesis Committee members, demonstrate successful completion of this requirement. The Thesis Committee assesses the quality of the thesis proposal and the thesis defense to determine whether the student has successfully completed this final requirement for the master's degree.