



MASTER OF EDUCATION with specialization in General Science, Biology, Chemistry, Mathematics and Physics

This is a non-thesis program that aims to develop competence in teaching methodology and science content. Graduates of the program are expected to be able to follow the latest developments in their respective disciplines to help them become better teachers of Biology, Chemistry, Mathematics and Physics in the secondary and introductory college level.

To earn the M.Ed. degree, the student is required to write a project paper (an action research) and present this in an oral examination.

ADMISSION REQUIREMENTS

1. Bachelor's Degree with 20 units of courses in the discipline they intend to specialize in.
2. A grade point average of 2 (B-) or above in the undergraduate major field of study.
3. Pass the Graduate Admission Test.
4. Pass the interview by the department chair.

COURSE REQUIREMENTS

A. Basic Courses	12 units
B. Major Courses	15 units
C. Cognates/Electives	9 units
D. Comprehensive Examinations (Oral/Written)	-----
TOTAL	36 units

In addition to the above requirements, Non-BSE graduates with less than 3 years of teaching experience are required to take a 6-unit Practicum course. Those with more than 3 years of teaching experience take 2 of the following courses in lieu of the Practicum: Foundations of Education1, Measurement and Evaluation, Principles of Teaching and Instructional Technology. Applicants with insufficient background in science or math will be required to take prerequisite courses of up to 6 units.

Also, an additional six (6) units of Advanced Technical Reading and Writing 1&2 will be required for applicants with a low score in the essay part of the entrance examination.

PROGRAM CURRICULUM

A. Basic Courses (12 units)

Statistics and Research (SCE5050)	3 units
History and Philosophy of Science and Mathematics (SCE537M)	3 units
Teaching of (Science, Biology, Chemistry, Mathematics or Physics)	3 units
Graduate Seminar [Action Research with oral exam] (SCE8100)	3 units

B. Major Courses (15 units)

1. General Science (SCE611M)

Applied Math for Science Teachers	3 units
Earth/Environmental Science	3 units
General Biology	3 units
General Chemistry	3 units
General Physics	3 units



2. Biology (SCE613M)

Botany	3 units
Zoology	3 units
Ecology	3 units
Cell Biology	3 units
Microbiology	3 units

3. Chemistry (SCE614M)

Inorganic Chemistry	4 units
Organic Chemistry	4 units
Analytical Chemistry	4 units
Physical Chemistry	3 units

4. Mathematics (SCE612M)

Foundations of Modern Mathematics	3 units
Foundation of Calculus	3 units
Number Theory	3 units
Linear Algebra	3 units
Modern Geometry	3 units

5. Physics (SCE615M)

Mechanics for Teachers	3 units
Thermodynamics for Teachers	2 units
Physics Lab for Teachers 1	1 unit
Electromagnetism for Teachers	3 units
Optics for Teachers	2 units
Physics Lab 2 for Teachers	1 unit
Modern Physics for Teachers	3 units

C. Cognates/Electives (9 units)

Principles, Issues and Practices in Basic Science Education (SCE538M)	3 units
Curriculum and Administration and Management (SCE590M)	3 units
Assessment of Cognitive Functioning and Process Skills in Science	3 units
Assessment of Cognitive Functioning and Problem Solving in Math	3 units
Computer Applications for Science Education [Chemistry, Biology, & Physics] (SCE711M)	3 units
Theories of Learning and Teaching in Science and Math (SCE536M)	3 units
Technology for Math Education [Math major only] (SCE712M)	3 units
Functions and Modeling in Mathematics Education (SCE540M)	3 units
Reforms & Trends in Mathematics Education Research (SCE528M)	3 units

D. Comprehensive Examinations

- Written (Major & Basic)
- Oral Examination (Action Research Project Paper Presentation)