De La Salle University

## MASTER OF SCIENCE IN TEACHING with specialization in Biology, Chemistry, Math & Physics

This program aims to develop educators in the secondary and introductory college level who are competent in teaching methodology and science content. The graduates are also expected to be able to follow the latest developments in their respective disciplines and become active researchers in science education.

### ADMISSION REQUIREMENT

1. Bachelor's Degree with 20 units 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 | 3 units |
| D. Comprehensive Examinations | |
| E. Thesis Writing | 6 units |
| | --- |
| **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 entrance examination.*

### PROGRAM CURRICULUM

A. Basic Courses (12 units)

| | |
|---|---|
| Statistics for Science Education (SCE4750) | 3 units |
| Methods of Research in Science Education (SCE525M) | 3 units |
| History and Philosophy of Science and Mathematics (SCE537M) | 3 units |
| Teaching of (Biology, Math, Chemistry or Physics) | 3 units |

**B. Major Courses (15 units)**

**1. Biology (SCE613M)**

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

**2. Chemistry (SCE614M)**

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

**3. Mathematics (SCE612M)**

| | |
|---|---|
| Foundations of Modern Math | 3 units |
| Foundation of Calculus | 3 units |
| Number Theory | 3 units |
| Linear Algebra | 3 units |
| Modern Geometry | 3 units |

**4. Physics (SCE615M)**

| | |
|---|---|
| Mechanics | 3 units |
| Thermodynamics | 2 units |
| Physics Lab 1 | 1 unit |
| Electromagnetism | 3 units |
| Optics | 2 units |
| Physics Lab 2 | 1 unit |
| Modern Physics | 3 units |

**C. Cognates/Electives (3 units)**

| | |
|---|---|
| Principles, Issues and Practices in Basic Science Education (SCE538M) | 3 units |
| Curriculum and Administration and Management (SCE590M) | 3 units |
| Assessment of Cognitive Functioning & Process Skills in Science (SCE556M) | 3 units |
| Assessment of Cognitive Functioning & Problem Solving in Math (SCE557M) | 3 units |
| Computer Applications for Sci. Education (Chem, Biol & 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 |

Examinations
Written (Major and Basic)

**E. Thesis Writing (SCE851M/SCE859M)** 6 units