



University of Southeastern Philippines
College of Arts and Sciences

MASTER OF SCIENCE IN APPLIED MATHEMATICS
CMO No. 15, series of 2019
Approved per BOR Resolution No. 02, series of 2023
Effective S.Y. 2022-2023

I. FOUNDATION COURSES

| Course No. | Course Title | Units | Pre-requisites |
|------------|--------------------------------------|-------|----------------|
| AMS 7111 | Matrix Theory with Applications | 3 | None |
| AMS 7112 | Mathematical Statistics | 3 | None |
| AMS 7113 | Fundamentals of Computer Programming | 3 | None |

II. MAJOR COURSES

| Course No. | Course Title | Units | Pre-requisites |
|------------|--------------------------------|-------|------------------------------|
| AMS 7121 | Applied Differential Equations | 3 | AMS 7113 |
| AMS 7122 | Linear Programming | 3 | AMS 7111 |
| AMS 7211 | Nonlinear Programming | 3 | AMS 7122 |
| AMS 7212 | Mathematical Modeling | 3 | AMS 7112, AMS 7113, AMS 7121 |
| AMS 7213 | Numerical Analysis 1 | 3 | AMS 7111, AMS 7113 |

III. ELECTIVES

| Course No. | Course Title | Units | Pre-requisites |
|------------|--------------|-------|----------------|
| | Elective 1* | 3 | None |
| | Elective 2* | 3 | None |

IV. GRADUATE SEMINAR AND THESIS

| Course No. | Course Title | Units | Pre-requisites |
|------------|---|-------|---|
| AMS 7214 | Graduate Seminar in Applied Mathematics | 1 | AMS 7121, AMS 7122 |
| AMS 7999 | Thesis Writing | 6 | Pass or exempted in the comprehensive examination |

Note: * - can be taken from any graduate courses

THESIS Track: Academic

| SUMMARY | UNITS |
|---|-----------|
| Foundation Courses | 9 |
| Major Courses | 15 |
| Electives (at least 2 courses) | 6 |
| Graduate Seminar in Applied Mathematics | 1 |
| Thesis | 6 |
| TOTAL NUMBER OF UNITS | 37 |



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I. Program Outcomes:

- PGO1** Demonstrate advanced knowledge in applied Mathematics with independence and self-directed learning, and leading with the current research in the field.
- PGO2** Exemplify leadership and/or teamwork with others in current research, leadership and in the field
- PGO3** Modify/Improve existing methods under applied mathematics that can be used to solve real-world problems
- PGO4** Apply appropriate mathematical procedures to solve multidisciplinary problems and communicate the results and solutions
- PGO5** Demonstrate ethical responsibility in the practice of one's profession
- PGO6** Demonstrate interest in learning Mathematics independently, conducting and/or analyzing researches, and pursue advanced studies

II. Type of Graduate Program (Master of Science (MSc) Academic Track)

Major Requirement and Student Output (CMO 15, S. 2019)

- Passing the comprehensive examination
- Thesis (6 units)
- At least one (1) publication in a refereed journal or juried creative work outlet

III. Admission Requirements:

Applicants for the Master of Science in Applied Mathematics (MSAM) program need to meet the following qualifications:

1. Must be a graduate of the following programs: BS in Applied Mathematics, BS in Mathematics, BS in Statistics, BSEd major in Mathematics, or any allied program who had taken at least 6 units of calculus and 3 units of linear algebra.
2. Must have a GWA of at least 2.0 or its equivalent to all Mathematics, Statistics, and Applied Mathematics undergraduate courses. In case the applicant cannot satisfy this requirement, the recommendation given by the former professors serves as a basis for acceptance.
3. Must have a GSAT score of at least 80%. In case the GSAT score falls between the range of 70% to 79%, the applicant is granted admission to the MSAM program on probationary status and can take only 9 units. Probationary status is lifted if, at the end of the first semester, the student obtains a GWA of 2.0 or better, and has no failing grades or incomplete (INC) marks in any courses.
4. Must have passed the entry requirements as stipulated in the graduate school manual

IV. Retention Policy:

Students in the MSAM program must

1. maintain a minimum GPA of 2.0 in any given semester;
2. pass the comprehensive examination, and
3. comply with the minimum standards as stipulated in the graduate school manual.

V. Published research output to refereed journals is required to obtain the degree.