University of Nizwa
College of Arts and Sciences
Department of Mathematical and
Physical Sciences
Mathematics Section

Master of Science Program in Applied Mathematics

Degree structure and requirements:

The M.Sc. degree in mathematics is a 24 credit courses and 6 credits of a thesis (research project) spread over two academic years. The student will be required to successfully complete 4 courses (12 credits) of core content plus 4 courses (12 credits) of elective content. The elective courses are chosen from the list. Additionally, the student will be required to produce a research project (thesis) of sufficient merit are related to the student's stream course work and worth 6 credits.

Program Core courses: (12 Credit Hours)

Course Code	Course Title	Cr. Hrs.	Prerequisite
MATH 600	Mathematical Modeling I	3	
MATH 601	Advanced Numerical Analysis and Computation	3	
MATH 604	Theory of Differential Equations	3	
MATH 612	Computational Mathematics	3	

3.3 **Elective courses**: (12 credit elective courses)
The student must select four elective courses from the following list of courses:
(Offering the courses is based on the interest of the students and availability of the faculty)

Course Code	Course Title	Cr. Hrs.	Prerequisite
MATH 602	Advanced Mathematical Methods	3	
MATH 603	Mathematical Modeling II	3	MATH600
MATH 605	Numerical Methods for Differential Equations	3	
MATH 606	Industrial Mathematics	3	MATH602
MATH 607	Mathematical Finance	3	MATH604
MATH 608	Fluid Dynamics	3	MATH602
MATH 609	Applied Functional Analysis	3	
MATH 610	Theory of Waves	3	
MATH 611	Mathematical Relativity and Cosmology	3	
MATH 613	Special Topics in Mathematics I	3	
MATH 614	Special Topics in Mathematics II	3	

Thesis (Research Project) Requirements (MATH 699): (6 credit hours)

Based on the University of Nizwa Graduate Studies Academic Regulations and Procedures, the student must submit a request to his/her academic advisor for an official assignment of Thesis Research Supervisor (TRS)**.**
The project leads to the writing of a thesis. The thesis will be in an area of Applied Mathematics chosen by the students. In the thesis, the student should demonstrate his/her ability for independent work. It should also demonstrate the student's ability to conduct research and TRS will guide the student to follow the research methodology. Students must give two seminars, one in each semester, presenting the research work in thesis. Two examiners (internal and external) other than the TRS will be appointed to conduct the oral exam.

Study Plan:

Semester	Course code	Course title	Credits
First	MATH 600	Mathematical Modeling I	3
	MATH 604	Theory of Differential Equations	3
	MATH 612	Computational Mathematics	3
		Elective 1	3
Second	MATH 601	Advanced Numerical Analysis and Computation	3
		Elective 2	3
		Elective 3	3
		Elective 4	3
Third	MATH 699	Research Project (Thesis)	6
Fourth	MATH 699	Research Project (Thesis)	
			30

Degree Plan

Summary:

Core Courses	=	12	
Elective Courses	=	12	
Compulsory Research Project	=	6	
Total Credits	=	30	

Program Core Courses : 12 Credits

Course Code	Course Title	Cr. Hrs.	Prerequisite
MATH 600	Mathematical Modeling I	3	
MATH 601	Advanced Numerical Analysis and Computation	3	
MATH 604	Theory of Differential Equations	3	
MATH 612	Computational Mathematics	3	

Elective Courses: 12 Elective Credits

Elective Courses to be chosen from the following list:

Course Code	Course Title	Cr. Hrs.	Prerequisite
MATH 602	Advanced Mathematical Methods	3	
MATH 603	Mathematical Modeling II	3	MATH600
MATH 605	Numerical Methods for Differential Equations	3	MATH604
MATH 606	Industrial Mathematics	3	MATH602
MATH 607	Mathematical Finance	3	MATH604
MATH 608	Fluid Dynamics	3	MATH602
MATH 609	Applied Functional Analysis	3	
MATH 610	Theory of Waves	3	
MATH 611	Mathematical Relativity and Cosmology	3	
MATH 613	Special Topics in Mathematics I	3	
MATH 614	Special Topics in Mathematics II	3	