

# Madonna University

## General Science (Elementary Teachers) • College of Science & Mathematics

### About the Program

#### Overview

The General Science major consists of an array of biology, chemistry, physics, earth science and astronomy courses.

#### Program Specifics

The degree is available only at the completion of all requirements for the Elementary (K-8) Provisional Teaching Certificate. A student who begins the program for teacher certification, but does not complete it for any reason, must change to another major to complete his or her degree requirements.

#### Unique features

- Scholarly faculty dedicated to quality teaching
- Provides unique background in chemistry, biology, physics, earth science and astronomy
- Provides for a variety of laboratory experiences
- Placements in multicultural school settings

#### Career Options

- Elementary/middle school teacher
- Science curriculum coordinator

### General Science Major: Bachelor of Science (42 s.h.)

#### Required Major Courses:

BIO 1030	General Biology I	4 s.h.
BIO 1040	General Biology II	4 s.h.
BIO 2240	Basic Human Physiology	4 s.h.
CHM 1110	General Chemistry I	4 s.h.
CHM 1610	Introduction to Life Chemistry	4 s.h.
ESS 2160	Earth Science	4 s.h.
ESS 3030	Oceans: Our Continuing Frontier	4 s.h.
ESS 3290	Principles of Astronomy	4 s.h.
PHY 2530	General Physics I	4 s.h.
PHY 2540	General Physics II	4 s.h.
GSC 4950	Senior Seminar	2 s.h.
<b>Total</b>		<b>42 s.h.</b>

#### Required Support Courses:

MTH 1050	AND 1060 Intermediate Algebra AND Trigonometry	7 s.h.
<b>OR</b>		
MTH 1210	Precalculus	5 s.h.
<b>Total</b>		<b>5-7 s.h.</b>

Science and mathematics courses taken more than seven years previously may need to be repeated, at the discretion of the program director. (*This policy is general across all College of Science and Mathematics programs.*)

### Teacher Certification

The major was developed in accordance with the guidelines of the National Science Teacher Association for the preparation of middle school science teachers. Please contact the Education Department at 734-432-5655 or 432-5647 regarding teacher certification.

Students completing the Bachelor of Science degree using the General Science major must add the course EDU 4470, Theory and Techniques of Science Instruction: Elementary School, 1 s.h., to the Professional Education requirements listed in the Education section of the Madonna University Bulletin.

### The Faculty

**James Copi**, *Biology* (B.S., Michigan State University; M.S., Ph.D., Wayne State University)

**Afif Jawad**, *Physics* (B.S., M.S., Ph.D., Wayne State University)

**Maria Surma Kuhn**, *Chemistry* (B.S., Ph.D. candidate, Wayne State University)

**Stanley Ngeyi**, *Chairperson, Physical and Applied Sciences* (B.S., University of Yaoundé; M.S., Ph.D., University of Michigan)

**Asaad Istephan**, *Natural Science* (B.S., Liverpool University, U.K., M.S., Ph.D., Birmingham University, U.K.)



## For Admissions Information

Application and any transcripts are to be submitted directly to:

Office of Undergraduate  
Admissions

Madonna University  
36600 Schoolcraft Road  
Livonia, Michigan 48150-1176  
(734) 432-5339  
(800) 852-4951, ext. 5339  
FAX: (734) 432-5424

Web: [www.madonna.edu](http://www.madonna.edu)

E-mail: [admissions@madonna.edu](mailto:admissions@madonna.edu)

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## For Program Information

Dr. Stanley Ngeyi, Chair  
Physical and Applied Science  
Madonna University  
36600 Schoolcraft Rd.  
Livonia, MI 48150-1176  
(734) 432-5513  
(800) 852-4951, ext. 5513  
FAX (734) 432-5393

Web: [www.madonna.edu](http://www.madonna.edu)

E-mail: [sngeyi@madonna.edu](mailto:sngeyi@madonna.edu)

## For Teacher Certification

Mrs. Nora King  
(734) 432-5655  
[nking@madonna.edu](mailto:nking@madonna.edu)

Madonna University reserves the right to withdraw or modify information in this brochure.

See Advisor/Admissions Office for current information.

Madonna University guarantees the right to equal educational opportunity without discrimination because of race, religion, sex, national origin, age, or disabilities.

## Selected Course Offerings

### General Biology I, II

Fundamental biological principles and problems as they apply to molecular, cellular, organismic, and ecological levels of the plant and animal worlds.

### General Chemistry I

Principles of chemistry including atomic structure and periodicity, chemical bonding, stoichiometry, gas laws, solution concepts, acid-base theory, redox processes, and equilibrium.

### General Physics I

Fundamental methods of mechanics, molecular physics, heat and sound. Opportunity for experiments at Argonne National Laboratory near Chicago.

### Oceans: Our Continuing Frontier

Introduction to the whole range of human involvement with the sea, emphasizing awareness of, and possible solutions to, technological problems inherent in exploring the sea. Interdisciplinary course designed for General Science and non-science majors.

### Principles of Astronomy

Provides a comprehensive introduction to astronomy. Topics include the solar system, stars, galaxies, cosmology, and history of astronomy. Astronomical laboratory investigations are part of the course. Interdisciplinary course designed for General Science and non-science majors.

### Basic Human Physiology

Non-laboratory study of the functioning of the body systems considering the integration and control of life processes in the cells, tissues, organs, and systems of the human body.

### Introduction to Life Chemistry

Integrated organic and biochemical principles related to normal functioning of the human body.

### Senior Seminar

Preparation and presentation of a scientific paper. Taken by students with senior status as a requirement for graduation.