

Bachelor of Arts

BA with an Arts and Science Major

Why major in Arts and Science at CMU?

The interdisciplinary major in Arts and Science offers the opportunity to study two distinct disciplines in some depth: A *concentration in Arts* and a *concentration in Science*.

Science concentrations include Biology, Biochemistry, Ecology, Applied Mathematics and Mathematics. It enables a flexible combination of these with other disciplines in the liberal arts, giving students the opportunity to study two distinct disciplines in some depth.

This program aims to train you to become scholars and citizens who can interact productively with others in both scientific and humanistic fields. This interdisciplinary learning will help you develop strong skills to think critically, analyze information and data, and communicate scientific ideas and findings. It is a good fit for students with diverse academic interests, who are considering future work in areas that require a broad set of skills, and the ability to draw on different domains of knowledge.

Program Strengths

CMU has an academically rigorous program, where the smaller program means students have access to their professors and additional supports to achieve academic success. Small class sizes allow for exemplary teaching and mentoring, where professors know their students' names and interests. Labs are taught by researching professors or lab instructors, and provide a space for every student to gain hands-on experience.

The interdisciplinary nature of this program enables students to draw from different areas of study and pursue their diverse interests. This is a flexible program that allows students to pursue their academic and professional goals.

Career Paths

- The Arts and Science major provides students with the pre-requisites to pursue professional programs and graduate degrees at other institutions leading to careers including: Healthcare, Education, Agroecology, and Natural Resources Management.
- With this degree, students will be well-suited to pursue further careers in law, ministry, politics, journalism, or any other field that requires a broad set of skills.

Skills Developed

- Reading and interpreting texts
- Communicating complex ideas
- Thinking creatively and critically
- Communicating effectively, both orally and in writing
- Researching effectively
- Presenting and persuading
- Managing time and meeting deadlines
- Developing cross-cultural awareness
- Working independently

Arts and Science: Concentrations and Courses

Science Concentrations and Courses include:

Biology

- The Genetic Revolution
- Cells and Energy
- Cell Biology
- The Physiology of the Human Body
- Microbiology
- Genetics of Eukaryotes and Bacteria
- Introduction to Global Health

Biochemistry

- Structure and Modelling in Chemistry
- Physical Chemistry
- Organic Chemistry I: Structure and Function
- Organic Chemistry II: Reactivity and Synthesis
- Biochemistry I: Biomolecules and Metabolic Energy
- Biochemistry II: Catabolism, Synthesis and Metabolic Pathway

Ecology

- The Evolutionary and Ecological Revolution
- The Diversity of Life
- Quantitative Research Methods in Ecology
- Ecology I & II

Applied Mathematics

- Basic Statistical Analysis
- Introduction to Calculus
- Calculus II
- Ordinary Differential Equations
- Vector Geometry and Linear Algebra
- Chaos Theory
- Physics I: Mechanics
- Physics II: Waves & Modern Physics
- Electromagnetic Field Theory
- Introduction to Computer Science

Arts Concentrations include:

- Biblical and Theological Studies
- Business
- Communications and Media
- English
- History
- Interdisciplinary Studies
- International Development Studies
- Geography
- Music
- Peace and Conflict Transformation Studies
- Political Studies
- Psychology
- Social Science

In addition to courses related to the concentration, students will take courses in other science concentrations, humanities, social sciences, and courses in Biblical and Theological Studies as part of the degree.

Course descriptions can be found on the CMU website. Contact the admissions office with further questions.

A work-integrated learning course (Practicum) is required in every degree at CMU. This Practicum can be done as an intensive 12-week placement or a once-a-week placement over 20 weeks during the school year. The work placement can help students explore the field they are majoring in for career possibilities or it can provide a way to expand their experiences in a field they haven't thought about before.

Entrance Requirements: Grade 12 Biology, Chemistry, Math (applied or pre-calculus) and Physics