

## **An introduction to the Pre-Biomedical Professions Emphasis**

Biological Sciences Department, University of Wisconsin – Whitewater

Students at the University of Wisconsin – Whitewater can earn a Bachelor of Arts or Bachelor of Science degree in Biology with an emphasis in Pre-Biomedical Professions. This is a great emphasis for students interested in going on to a pre-professional school (Medical, Dental, Veterinarian Medicine, Physical Therapy, nurse practitioner, etc.). Note that Physician's Assistant program is a better fit for our Cell Physiology Emphasis. Pre-Biomedical Professions emphasis offers a very focused pathway for a student; hence it incorporates all the standard science pre-requisites for virtually all pre-professional schools. To be clear, with very few exceptions, pre-professional programs want you to have a completed and successful undergraduate degree. The schools expect that the degree provided you with the needed coursework, which includes topics such as the humanities. Communication and people skills are highly desired. It is not necessary to major in a field such as Biology, however it certainly provides you with a strong background in the areas in which you will need to excel. The hardest step to getting into a pre-professional program is maintaining a high GPA and gaining relevant experience in your field of interest. In addition to courses taught by dedicated instructors (our priority is your education) we also maintain small class sizes. Our program provides many opportunities highly desired by graduate programs, including extensive undergraduate research and internship opportunities.

### What can you do with a Biology major and a Pre-Biomedical Professions Emphasis?

Our graduates have all of the necessary requirements to apply for a pre-professional program. Other graduates move on to graduate programs, including genetic counseling and biomedical research programs. Here is a list of where just a few of our graduates have landed:

- UW Madison School of Medicine and Public Health, Medical College of Wisconsin
- UW Madison School of Veterinary Medicine, Iowa State University College of Veterinary Medicine
- Marquette University School of Dentistry
- A variety of masters and PhD research programs from across the country

### What if I would like to learn more about the many fields of study in this area?

At UWW Biology we assign each student a faculty advisor, we also have individuals that serve as "specialty" advisors. These folks will hold periodic meetings to address questions and provide information for those in individual areas. In particular we have specialty advisors for those interested in Pre-Medical, Pre-Veterinary, Pre-Dental, Pre-Optometry, etc. If you wish to talk to any of them, please contact the main biology office: 320 Upham Hall, Amber Kammeraad ([kammeraa@uww.edu](mailto:kammeraa@uww.edu)), or call (262)-472-1092. She will put you into touch with one of our specialty advisors. We also have links information on various specialty areas on this site, and there is information on various healthcare careers on this site as well.

## Basic curriculum

- Unique (non-biology content) requirements
  - 1 advanced math course (Math 152 (Math 150 & 151) or higher)
  - 2 semesters General Chemistry with labs
  - 1 semester Organic Chemistry (lecture only)
  - 1 semester of an additional Organic Chemistry lecture, Organic Chemistry lab, Quantitative Chemistry or Biochemistry lab
  - 1 scientific writing course
  - 1 applied statistics course
- Biology major requirements
  - 2 semesters introductory biology with labs
    - These are general survey courses that introduce students to the many sub-disciplines within biology.
  - 1 semester Biology Forum
    - A seminar course on current research and career opportunities.
  - 4 200-level courses (Genetics, Cell Biology, Ecology, Lab techniques)
    - These provide a more in-depth look at the three primary sub-disciplines of biology, along with a hands-on lab course on current biotechnology techniques, to provide a breadth of biological knowledge.
  - 1 upper-level cellular course (Molecular or Micro)
    - A deeper dive into biological principles at the cellular and subcellular level.
  - 3 upper-level cell/physiology elective courses
    - These electives allow students to focus on their area of interest. Options include Comparative Anatomy, Human Anatomy & Physiology, Animal Physiology, Behavioral Neuroscience, Developmental Biology, and others.
  - 1+ credits of experiential learning (internship, travel study, undergraduate research)
    - This requirement provides students an opportunity to apply their course learning outside of the classroom environment.
  - 1 semester of Biochemistry lecture (Chemistry or Biology version).
  - 2 semesters of Physics
    - Physics is a very standard pre-requisite for most pre-professional programs.
  - Additional upper-level electives if needed
    - This is a good time to take courses in other areas of biological interest.
- Additional courses requested by specific programs
  - Access to Writing Intensive courses (UW Medical school required), courses in medical ethics, psychology, sociology, Kinesiology, ceramics and 3D-modeling (Dental schools)

- Access to minors in Public Health, Allied Health, Chemistry, Psychology, Bioinformatics, etc.
- Minor requirements. (None)
  - Students with this Emphasis are not required to complete a minor.

#### Opportunities for student involvement

- Student organizations
  - Beta Beta Beta Biological Honor Society
  - Pre-Health Associates of Today
  - Pre-Veterinary Club
  - Terrestrial and Aquatic Ecology Club
- Undergraduate research