

# MEDICAL AND BIOLOGICAL ILLUSTRATION, MA

The Medical and Biological Illustration (MBI (<https://medicalart.johnshopkins.edu/admissions-mbi/>)) program offers a robust curriculum (<https://medicalart.johnshopkins.edu/curriculum/>) designed to prepare future leaders in the medical illustration profession. Accredited since 1970, the MBI program offers courses in visual communication of medicine and life-sciences as well as graduate level science courses in the School of Medicine. Courses are directly related to technical, biological, or medical subject matter. Student assignments require problem solving and individual research. Complete understanding of the topic is required. Expertise in all media communication utilized by clinicians, research scientists, health science personnel, students, patients, and the public is stressed. Applicants must hold a bachelor's degree with courses in premedical sciences, and be able to demonstrate art skills and experience which they obtained through instruction in the fine and applied arts.

Basic medical science courses will be offered by the School of Medicine. Illustration and communications curriculum will be provided by the Department of Art as Applied to Medicine. Students may individualize their study depending on previous training, professional interests, and career objectives. All degree candidates must satisfy the requirements of the University, the School of Medicine, and the Department of Art as Applied to Medicine.

The MBI program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP (<http://www.caahep.org/>)) in cooperation with the Accreditation Review Committee for the Medical Illustrator (ARC-MI (<https://ami.org/about-ami/ami-leadership/committees/>)), which is a Committee of the Association of Medical Illustrators (AMI (<https://ami.org/>)). Current Accreditation: 2019-2026

## Equipment and Fees

Each student is required to own a digital camera, a USB flash memory stick and an external portable hard drive.

## Scholarships

Departmental scholarships are awarded to all students enrolled in the program and applied towards tuition fees.

**The W. B. Saunders Company Fellowship in Art as Applied to Medicine** This fellowship was established in 1964 in honor of Lawrence Saunders upon his retirement after 50 years of distinguished leadership in medical publishing.

**The William P. Didusch Scholarship and Loan Fund** An endowment for student tuition support in the Department of Art as Applied to Medicine was established in 1973 with a generous gift from Mr. Didusch. A significant contribution was added to this Fund from the estate of Bertha M. Trott whose death in 1973 ended a life filled with dedication and service to urologists at Johns Hopkins and elsewhere. Memorial contributions from friends and colleagues have been added to this Fund since the death of William P. Didusch in 1981.

**The Kathleen Mackay Powell Memorial Fund** An endowment to assist and benefit students in the field of medical illustration given in memory of

Kathleen Mackay Powell who studied in the department (1930-31) under Max Brödel.

**The Leon Schlossberg Scholarship Fund** This scholarship was established in 1999 in memory of Leon Schlossberg (JHU '35) and his lifetime association as a medical illustrator for the Department of Surgery and faculty member in Art as Applied to Medicine.

**The Elinor Widmont Bodian Scholarship in Medical Art** This scholarship fund was established in 2000 by Mrs. Bodian (JHU '43) and her family to provide financial assistance to students in Medical Illustration.

**The Chester Reather Scholarship in Art as Applied to Medicine** An endowment established in Art as Applied to Medicine in honor of Chester Reather's distinguished career as a medical photographer and research associate at The Johns Hopkins University School of Medicine. This fund is used to reward a graduate student with a scholarship for innovative research and creative use of new imaging technology.

**The Frank H. Netter, M.D. Memorial Scholarship in Medical Art** Frank H. Netter, M.D. is known world-wide as a medical illustrator who could distill complex medical subject matter into clear, effective teaching images. Dr. Netter was not only a skilled draftsman, but knowledgeable in anatomy, physiology, and pathology through his medical training. Family and friends established this scholarship to recognize a student in Art as Applied to Medicine who displays a similar balance of medical and scientific knowledge with the artistic skills that Dr. Netter exhibited throughout his career. Winners of this award have excelled in their academic courses; displayed exceptional art expression; and most importantly utilized both resources to create well designed and effective didactic illustrations.

**The Gwynne M. Gloege Scholarship Fund in Medical Art** This scholarship fund was established in 2004 by Gwynne Gloege (JHU '56) to provide financial assistance to medical art students.

**The Ranice W. Crosby Scholarship Fund** An endowment for student tuition support in the Department of Art as Applied to Medicine was established in 2008 with a generous gift from the estate of Mrs. Crosby. Memorial contributions from friends and colleagues have been added to this Fund since her death in 2007.

## Awards, Lectureship, and Support

**The Annette S. Burgess Award** The alumni of the Department of Art as Applied to Medicine contribute funds each year which provide for an annual award given to the student whose ophthalmological illustration is outstanding.

**The Ranice W. Crosby Distinguished Achievement Award** Through the generosity of alumni, colleagues, and friends, a medallion honoring Ranice W. Crosby, Director of Art as Applied to Medicine from 1943 to 1983, is awarded for scholarly contributions to the advancement of art as applied to the medical sciences. The recipient is selected by a committee at intervals of from one to three years.

**The Samson Feldman Visiting Scholar in Art as Applied to Medicine** Rossetta A. and Sadie B. Feldman, sisters of Samson Feldman, established a visiting lectureship to honor his life as an artist and lifelong patron of the arts. Lecturers are selected from distinguished scholars in visual communications with the purpose of presenting contemporary views pertaining to medical art. The selection of lecturers are made by a committee representing the Department of Art as Applied to Medicine.

**The James M. and Carolyn H. Phelps Fund** Support for the preservation and care of the Max Brödel Archives. This fund was established in memory of their parents by the Phelps family.

## Admission Requirements

The goal of the Admissions Committee is to find students with intellectual curiosity and a passion to communicate medicine and science through dynamic visuals. We seek candidates who demonstrate high academic performance in science, particularly the life sciences, excellent draftspersonship in an art portfolio, and strong verbal and written communication skills.

Further details on the below Prerequisites can be found on the MBI Admissions web page (<https://medicalart.johnshopkins.edu/admissions-mbi/>).

### Prerequisites

- A **Bachelor's degree** demonstrating a high level of scholarship (BS, BA, BFA, or similar)
- **Exemplary Science Preparation** which includes the following four courses:
  - General Chemistry
  - Vertebrate Anatomy\* (with mammalian dissection lab)
  - Vertebrate Physiology\*
  - At least one of these *specific* Upper-Level Biological Science courses:
    - Molecular Biology
    - Embryology
    - Immunology
    - Histology
    - Cell Biology (must be upper-level / Junior-Senior level)
- A Strong Art Portfolio (<https://medicalart.johnshopkins.edu/sample-portfolio/>) demonstrating ability to realistically render directly observed subject matter in the following categories:
  - General Drawing
  - Figure Drawing
  - Color Media
  - Graphic Design
  - Digital Media
- **Excellent Written and Verbal Communication Skills**
  - At least one course in English Composition\*\*

\* A two-semester sequence in Human Anatomy and Physiology (course 1 and course 2) may substitute for the Vertebrate Anatomy and Vertebrate Physiology prerequisite courses. A one-semester Human Anatomy and Physiology course may only substitute for one prerequisite.

\*\* GRE or TOEFL scores may substitute for one course in English Composition

## Degree Requirements

### Graduate Program:

1. Each candidate must successfully complete all courses offered, and must submit a thesis on a subject approved by the program director. The completed thesis must be approved by a university qualified preceptor as worthy of acceptance in partial fulfillment of requirements for the M.A. degree. The candidate's standing will be

reviewed by the Committee on Master's and Ph.D. Programs before they are recommended for degree.

2. The student must satisfactorily complete all science courses: Molecular and Cellular Visualization, Neuroanatomy for the Medical Illustrator, Pathology, and Human Anatomy with Embryology.
3. Students must outline their thesis research and consult with their preceptor by the first quarter of the second year. The thesis will include original investigation and expository illustration, and may also include 3D digital or physical models, 2D or 3D animation, video, or immersive technology.

### University:

1. A candidate's period of attendance in the program will be no less than 18 months. Transfer graduate students must register a minimum of two consecutive semesters as full-time residents.
2. Certification by the Department or Graduate Program Director that all requirements have been fulfilled.

## Program Curriculum

The Medical and Biological Illustration (MBI) program offers a robust curriculum designed to prepare future leaders in the medical illustration profession. Accredited since 1970, the MBI program offers courses in visual communication of medicine and life-sciences as well as graduate level science courses in the School of Medicine. Courses are directly related to technical, biological, or medical subject matter. Student assignments require problem solving and individual research. Complete understanding of the topic is required. Expertise in all media communication utilized by clinicians, research scientists, health science personnel, students, patients, and the public is stressed.

A complete and updated list of courses is available on the MBI program's Curriculum page (<https://medicalart.johnshopkins.edu/curriculum/>).

### First Year

The academic calendar for first year students begins the first weekday in August. The first year curriculum includes courses in advanced sciences, illustration, animation, 3D modeling, graphic design, instructional design, medical photography and business practices. These core courses encourage research, close observation, accuracy, effective visual communication, exploration of various media, and learning in the sciences that will inform a future in medical illustration.

Code	Title	Credits
ME.120.708	Media Reproduction	1
ME.120.709	Continuous Tone Illustration	1
ME.120.714	Editorial and Conceptual Illustration	8
ME.120.715	Biological Illustration	2
ME.120.716	Medical Sculpture	3
ME.120.717	Communications Media	1
ME.120.719	Anatomical Illustration and Radiological Visualization	1
ME.120.720	Vector Illustration	2
ME.120.721	Raster Tone Illustration	3
ME.120.722	Introduction to 3D Modeling and Animation	2
ME.120.727	Neuroanatomy for the Medical Illustrator	2
ME.120.728	3D Animation	4
ME.120.733	2D Animation	3
ME.120.755	Business Practices for the Medical Illustrator	1

ME.120.807	Design of Interactive Learning Experiences	2
ME.130.600	Scientific Foundations of Medicine-Human Anatomy	
ME.120.726	Molecular and Cellular Visualization	3

## Second Year

The second year curriculum applies the skills and knowledge acquired in the first year coursework to advanced topics including surgical illustration, scientific writing, website development, interactive media, independent research and thesis, presentations to scientific audiences, and ophthalmological illustration. The second year culminates in the Portfolio course designed to help students transition to professional life.

Code	Title	Credits
ME.120.724	Web Animation, Interactivity and Design	3
ME.120.750	Surgical Illustration	7
ME.120.751	Ophthalmological Illustration	3
ME.120.754	Research and Thesis	11
ME.120.756	Operating Room Sketching	4
ME.120.757	Scientific Communication	1
ME.120.758	The Portfolio	4
ME.300.713	Pathology for Graduate Students: Basic Mechanisms	3

## Elective Studies

Students in their Second Year may select from the following courses as an overload to their curriculum with the approval of the director. Hours and course content to be arranged with the Director and Instructor.

Code	Title	Credits
ME.120.801	Advanced Projects in Illustration	0
ME.120.813	Independent Study	1

Seminars are offered throughout the year introducing topics pertinent to the profession. Sample topics: illustration ethics, intellectual property, artist rights, art pricing. Department faculty and guest lecturers.