The Medical & Biological Illustration (MBI) graduate program provides broad interdisciplinary education and training in medical illustration. This 22-month program meets both the scholarship requirements of the University for a Master of Arts degree and the visual communication needs of today's health science professionals.

As part of the Department Art as Applied to Medicine in the Johns Hopkins University School of Medicine, students in the MBI program have easy access to all the facilities of the world renowned Johns Hopkins Medical Institutions. The integral connection between the MBI graduate program and the medical illustration services provided by faculty of the Department allows students to mentor with practicing Certified Medical Illustrators (CMI), to use the most technologically advanced production equipment, and to observe faculty members as active illustrators in the Hopkins community.

Medical illustration training at Johns Hopkins formally began in 1911 under the leadership of Max Brödel with an endowment from Henry Walters. While the first students earned certificates, since 1961, students have earned a Master of Arts in Medical and Biological Illustration. The MBI program has enjoyed continuous accreditation since 1970. The most recent review by the Commission on Accreditation of Allied Health Education Programs is set for 2026.

The Profession

There is a growing need for clear accurate visuals to communicate the latest advancements in science and medicine. Effective medical illustration can teach a novel surgical procedure, explain a newly discovered molecular mechanism, describe how a medical device works, or depict a disease pathway. Through their work, medical illustrators bridge gaps in medical and healthcare communication.

Graduates of the Johns Hopkins Medical and Biological Illustration program have a strong history of high employment rates with some students receiving job offers prior to graduation. The graduates from 2016-2020 had an employment rate of 94% within the first 6 months.

Looking ahead, medical illustrators will continue to fill the vital role of illuminating medicine. Growth areas in medical illustration include: 3D modeling and animation, virtual and augmented reality, and interactive design.
Program Resources

Our most important resource - Faculty
7 full-time in our Department, 11 part-time, and 4 full-time joint-appointed. They include: 6 Certified Medical Illustrators, 1 Board Certified Clinical Anaplastologist, and 7 with Doctoral degrees.

Recognized by peers with elected leadership positions, amongst our faculty are 4 past Presidents of the AMI, 4 Chairs of the Board of Governors, 6 present and past leaders of the Vesalius Trust, and 1 past President of the IAA.

Two large Student Studios with natural light and individually partitioned work areas, Apple iMacs, equipped with all coursework software and Wacom tablets, for each student as well as ample communal space.

Access to Johns Hopkins Medical Institutions, a renowned health care and research community including the nationally ranked Johns Hopkins Hospital, School of Medicine, and Bloomberg School of Public Health.

JHMI educational facilities including the Armstrong Medical Education Building and the graduate programs building with the STILE Classroom.

The Welch Medical and the Eisenhower Libraries provide robust resources for student research.

Admissions

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

Admission Requirements

Baccalaureate degree (BS, BA, BFA, etc.)
High school senior standing
Graduate Record Exam (GRE) optional

Science
One semester in each science taken at a level for science majors
F1705A

General Chemistry
Vertebrate Anatomy* with mammalian (cat) dissection lab
Vertebrate Physiology* including organ systems
Upper-Level Biology at least one of the following: Molecular Biology, Embryology (Developmental Biology), Histology, Immunology, or Cell Biology

A two-semester course in Human Anatomy and Physiology (part 1 and part 2) which includes a mammalian dissection lab may be substituted for both Vertebrate Anatomy and Vertebrate Physiology prerequisites.

Art
A Portfolio demonstrating artistic ability in the following

General Drawing Realistic drawings created from direct observation expressing form in space, light on form, and a variety of surface textures. Examples should demonstrate skilled draftsmanship, ability to render detail, and should include still life arrangements and animal and plant studies.

Figure Drawing Advanced studies of the human figure drawn directly from the model. Examples should include both long and short poses rendered in a variety of media.

Color Media Examples demonstrating accomplished use of transparent media such as watercolor or colored pencil as well as opaque media (acrylic, gouache, oil) should be included. Landscape and still life subject matter rendered in representational manner demonstrating the ability to match colors accurately and to create form and space with color.

Digital Media Knowledge and experience in both vector and raster imaging applications. Courses in 2D animation, 3D animation, and web design are recommended.

Graphic Design Layouts that integrate image and typography to conform to a pre-selected format and audience. Client-oriented visual communication projects.

Writing
English Composition

Recommended Courses
Art History
Color Theory
Scientific Writing
Other advanced art specialties
Portfolio Guidelines

Admissions Portfolio and Applicant Profile access opens November 1st, and submissions are due no later than January 10th.

Portfolio Contents:

- 20 samples of your artwork
- Examples of all 5 required art categories:
  - General Drawing
  - Figure Drawing
  - Color Media
  - Digital Media
  - Graphic Design
- A minimum of 5 figure studies
- A minimum of 2 digital media pieces (graphic design, or illustration)
- A maximum of 2 examples of art outside the required categories may include sculpture, fine art prints, multimedia presentations, or photography

NOTE: Avoid including medical, anatomical or physiological subject matter

When uploading your Portfolio art, you will be asked to identify the following for each image:

- Title
- Description
- Medium / software
- Original size
- Date of completion
- Source – direct observation, photo reference, or both

NOTE: Avoid including medical, anatomical or physiological subject matter

Further detail on the portfolio categories is available: medicalart.johnshopkins.edu/sample-portfolio

Portfolio Upload:

Please submit images of the 20 samples of your artwork at a high resolution. A safe guideline is to make the largest dimension 1024 pixels. Your Portfolio can include still images or video. The Portfolio may include the following file types (preferred formats in **bold**):

- Images (max 5MB each): .jpg, .jpeg, .png, .gif, .tiff, .bmp, or .tga
- Videos (max 250MB each): .mov, .mp4, .m4v, .wmv, .flv, .asf, .mpeg, .mpg, .mkv
- Linked Media: Vimeo, YouTube, SoundCloud, and Sketchfab
- Documents (max 10MB): .pdf

The 20-image Portfolio and Applicant Profile must be submitted no later than January 10th using the following website: hopkinsmedart.slideroom.com

Application Process

A cohort of up to 7 students is selected each year to matriculate in early August.

**Step One: The Portfolio**

Interested candidates submit a 20-image Portfolio and answer Applicant Profile questions online. The submission website opens November 1st and portfolios are due January 10th. There is a $10 fee to submit the online Portfolio and Applicant Profile. hopkinsmedart.slideroom.com

**Step Two: Application & Interview**

Based on the portfolio and applicant profiles, the Admissions Committee invites select candidates to continue in the process through the formal School of Medicine Graduate Programs Application site and Personal Interviews. Due dates for the Application and Supporting Documents are provided at the time the interview date is set. Candidates may be asked to share additional artwork.

**Supporting Documents include:**

1. Three letters of recommendation. At least one from a science instructor and one from an art instructor
2. Transcripts from all colleges and universities attended
3. Statement of Interest in the MBI program
4. Application fee

Baltimore is the largest city in Maryland and the center of a metropolitan area of 1.5 million people (maybe we can say something about how Baltimore “mirrors” our profession – as a metropolitan city that is home to a burgeoning scientific community, a world-class medical center as well as a place rich with art and culture). Located on the Chesapeake Bay, the city is home to world class medical and educational institutions as well as a thriving art and music scene.

Baltimore offers cultural opportunities, professional sports, outdoor activities and much more. If you enjoy the ocean or the mountains, Baltimore is within driving distance of both. Washington, D.C., Philadelphia and New York are also an easy drive or train ride away.
Curriculum

The 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 select graduate level science courses in the School of Medicine. For more information and detail about preparing for admission, go to the Admissions Blog.

Diversity Statement and Non-Discrimination Policy:

The University does not discriminate on the basis of sex, gender, marital status, pregnancy, race, color, ethnicity, national origin, age, disability, religion, sexual orientation, gender identity or expression, veteran status or other legally protected characteristic. The University’s equal opportunity policy applies to all academic programs administered by the University as well as employment decisions.

Questions or concerns should be directed to:

The Office of Institutional Equity
1830 East Monument Street, Suite 7000
Baltimore, Maryland 21287-0022
Phone: (410) 955-3213
E-mail: medart-info@jhmi.edu
Web: medicalart.johnshopkins.edu

Graduate Degree Requirements

University

- 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.
- Certification by the Department or Graduate Program Director that all requirements have been fulfilled

Department

- Each candidate must successfully complete all courses offered and must submit a thesis on a subject approved by the Department or Graduate 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 M.A. and Ph.D. Programs before being recommended for degree.
- Students who receive three unsatisfactory grades may be dropped from the program. Students who receive more than ten credits with grades of C or lower are placed on academic probation.
- Students must satisfactorily complete all science courses: Molecular and Cellular Visualization, Neuroanatomy for the Medical Illustrator, Human Anatomy with Embryology, and Pathology
- Students must outline their thesis research and consult with their preceptor by the first quarter of the second year. The thesis, which must include original investigation and expository illustrations, may also include 3D digital or physical models, 2D or 3D animation, video, or immersive technology.

The First Year

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.

DEPARTMENTAL COURSES
- 2D Animation
- 3D Modeling and Animation
- Anatomical Illustration and Radiological Visualization
- Biological Illustration
- Business Practices for the Medical Illustrator
- Communications Media: Photography
- Communications Media: Graphic Design
- Continuous Tone Illustration
- Design of Interactive Learning Experiences
- Editorial and Conceptual Illustration
- Graphic Design
- Introduction to Design
- Medical Sculpture
- Operating Room Sketching
- Pen & Ink Illustration
- Raster Tone Illustration
- Vector Illustration
- 3D digital or physical models, 2D or 3D animation
- Communications Media: Photography
- Communications Media: Graphic Design
- Continuous Tone Illustration
- Design of Interactive Learning Experiences
- Editorial and Conceptual Illustration
- Graphic Design
- Introduction to Design
- Medical Sculpture
- Operating Room Sketching
- Pen & Ink Illustration
- Raster Tone Illustration
- Vector Illustration
- 3D digital or physical models, 2D or 3D animation

The Second Year

The second year curriculum applies the skills and knowledge acquired in the first year 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.

DEPARTMENTAL COURSES
- Ophthalmological Illustration
- Portfolio
- Research and Thesis
- Scientific Communication
- Surgical Illustration
- Web Animation, Interactivity and Design
- Communications Media: Photography
- Communications Media: Graphic Design
- Continuous Tone Illustration
- Design of Interactive Learning Experiences
- Editorial and Conceptual Illustration
- Graphic Design
- Introduction to Design
- Medical Sculpture
- Operating Room Sketching
- Pen & Ink Illustration
- Raster Tone Illustration
- Vector Illustration
- 3D digital or physical models, 2D or 3D animation

DEPARTMENTAL COURSES
- Anatomical Illustration and Radiological Visualization
- Biological Illustration
- Business Practices for the Medical Illustrator
- Communications Media: Photography
- Communications Media: Graphic Design
- Continuous Tone Illustration
- Design of Interactive Learning Experiences
- Editorial and Conceptual Illustration
- Graphic Design
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- Pen & Ink Illustration
- Raster Tone Illustration
- Vector Illustration
- 3D digital or physical models, 2D or 3D animation

ELECTIVE STUDIES
- Advanced Projects in Illustration
- Independent Study
- 3D digital or physical models, 2D or 3D animation

Elective studies may be arranged individually as an addition to the above program, working in close communication with the Director's approval. Arranged individually as an addition to the above program, working in close communication with the Director's approval.