

# POSTDOCTORAL BASIC SCIENCE MASTER'S DEGREE PROGRAMS

The Postdoctoral Master of Science (M.S.) Program in Biomedical Sciences is designed to advance research training through a combination of course work, a mentored research experience and the development of a manuscript submitted for publication.

- Artificial Intelligence in Health Care (AIHC) – Postdoctoral Masters (<https://catalog.mayo.edu/graduate-biomedical-sciences/postdoctoral-basic-science-masters-degree-programs/artificial-intelligence-health-care-postdoctoral-masters/>)
- Biochemistry and Molecular Biology (BMB) – Postdoctoral Masters (<https://catalog.mayo.edu/graduate-biomedical-sciences/postdoctoral-basic-science-masters-degree-programs/biochemistry-molecular-biology-postdoctoral-masters/>)
- Clinical and Translational Science (CTS) – Postdoctoral Masters (<https://catalog.mayo.edu/graduate-biomedical-sciences/postdoctoral-basic-science-masters-degree-programs/clinical-translational-science-postdoctoral-masters/>)
- Immunology (IMM) – Postdoctoral Masters (<https://catalog.mayo.edu/graduate-biomedical-sciences/postdoctoral-basic-science-masters-degree-programs/immunology-postdoctoral-masters/>)
- Molecular Pharmacology and Experimental Therapeutics (MPET) – Postdoctoral Masters (<https://catalog.mayo.edu/graduate-biomedical-sciences/postdoctoral-basic-science-masters-degree-programs/molecular-pharmacology-experimental-therapeutics-postdoctoral-masters/>)
- Regenerative Sciences in Medicine (REGS) – Postdoctoral Masters (<https://catalog.mayo.edu/graduate-biomedical-sciences/postdoctoral-basic-science-masters-degree-programs/regenerative-sciences-medicine-postdoctoral-masters/>)
- Virology and Gene Therapy (VGT) - Postdoctoral Master's Degree (<https://catalog.mayo.edu/graduate-biomedical-sciences/postdoctoral-basic-science-masters-degree-programs/virology-gene-therapy-postdoctoral-masters-degree/>)

## Application

Candidates must complete a formal application. More details are available on the MCGSBS Master's Programs web page. Additional details specific to the CTS Master's Program can be found here (<https://www.mayo.edu/research/centers-programs/center-clinical-translational-science/education/postdoctoral-masters-degree-program/application-process.html>). Applicants must be approved by the track program director and admission endorsed by MCGSBS.

## Eligibility

Applicants must be employed at Mayo Clinic. The employment appointment, as documented at the time of application, must be greater in length than the time required for completion of all requirements of the program. Eligible roles include: Any Mayo Clinic physician, scientist, fellow or resident with a doctoral degree in a discipline applicable to clinical research or medical student who plans to have a research

career. Visiting clinicians, research trainees and research collaborators are not eligible.

## Time Requirement

Applicants must have adequate protected time to complete course and research requirements within designated program length. Applications with inadequate protected time to complete the program will **not** be accepted. Time to completion can vary by program and Mayo Clinic role from two to five years. All scholars must be in their program a minimum of 1 year in order to meet the MCGSBS residency requirement. Scholars must complete all program requirements within 5 years.

Students must have dedicated time for their program commitments and abide by course attendance requirements as defined in course syllabi. Students must be appropriately engaged in their program and demonstrate continued progress towards graduation.

### Registration Requirement

At least 75% of the coursework for the Master's degree must be completed in MCGSBS. It is expected that a minimum of one year will be devoted to research. Students must be enrolled in a minimum of one course per term. If students are not registered for courses, they will be considered inactive to some reporting agencies and subject to any implications of the inactive status, e.g. eligibility for student loan deferral if applicable.

## Minimum Credit Requirements

Students must complete a minimum of 45 credits, which can include a maximum of 16 Research credits. (See individual specialty track descriptions for specific course requirements.)

## Transfer Credits

A total of 6 didactic credits may be transferred into the program. For more details, see the Credit Transfer Policy on the MCGSBS Policies and Procedures intranet site.

Students are expected to make continuous and successful academic and professional progress toward graduation requirements for the M.S. degree. The concept of satisfactory progress mandates monitoring of a students' academic and professional performance through items including, but not limited to:

- Register for at least one course all terms throughout training
- Complete Degree Planning Tool (DPT)
- Mentor Selection (required within 6 months of program start)
- Pass Written Qualifying Exam
- Submit Research Proposal (Data to be included in the M.S. thesis must be generated after admission to the M.S. program)
- Thesis Advisory Committee (TAC) Selection
- Routine TAC meetings and Progress Reports, minimum every six months
- Final Oral Exam/Thesis Defense
- Meet any program specific competencies as defined by track

Full details are included in the Academic Progress and Graduation Requirements for Masters Programs Policy on the MCGSBS Policies and Procedures intranet site.

## Mentor

A Master's degree mentor must be chosen from within Mayo Clinic and must have MCGSBS Full or Master's graduate faculty privileges. (Identifying a mentor is pre-determined for CTSC students in application phase, required within six months of start date for non-CTSC students.) A list of Faculty with Privileges can be found on the MCGSBS intranet site.

Once a mentor is selected, the student must register for MGS 6840 Master's Research every term for which they will be given a grade of Satisfactory or Not Satisfactory.

## Official Degree Planning Tool

The use of a Degree Planning Tool (DPT) is required and allows students to list the course work to fulfill degree requirements, including transfer credits. The DPT must be completed during the first academic year and should be updated as courses are completed throughout the training program. A final completed DPT must be submitted to the school when a tentative defense date has been determined to be cleared to graduate.

The DPT is available on the MCGSBS intranet site under For Students/General Forms/Resources/Masters Forms.

## Examinations

### Written Examination

The written qualifying examination will test the breadth of biomedical knowledge, and analytic and critical reasoning skills. The content and format of the examination is determined by each track. The written examination must be passed before the final oral examination may be scheduled.

For more details, see the Written Qualifying Exam Procedure on the MCGSBS Policies and Procedures intranet site.

### Final Oral Examination

The final oral examination may be scheduled after

1. the written qualifying examination has been passed,
2. MCGSBS has completed a graduation clearance audit confirming that all course and non-course requirements have been met, and
3. the thesis is reviewed and deemed ready to defend by the TAC.

Candidates for the Master's degree are expected to pass the final oral examination before completion of the Mayo residency or fellowship training program.

For more details, see the Final Oral Examination-Thesis Defense Procedure on the MCGSBS Policies and Procedures intranet site.

## Thesis

### Research Proposal

The research proposal must clearly define the candidate's role in the project and must have sufficient detail to permit review by an advisory committee. Additional details on the research proposal can be found on the Master's Forms intranet page. The Mayo Institutional Review Board must review all protocols for research involving the use of human subjects. It is the candidate's responsibility to secure approval of any such protocols before the research is undertaken.

### Thesis Advisory Committee

The composition of the Thesis Advisory Committee (TAC) is determined collaboratively between student and student's mentor and requires

approval of the program director and the school. After approval by the track, students submit the Master's Thesis Advisory Committee E-Form recommending the members of their Thesis Advisory Committee (TAC). All members must have graduate faculty privileges and the chair must have a minimum of Master's graduate faculty privileges. The TAC must consist of:

- Four members, including the student's mentor
- Mentor serves as the chair of the TAC
- Any additional members beyond four will be designated as ex-officio and will not vote at the final defense.
- No more than two members may have Teaching/Examining Privileges (TE).

Some tracks may define more specific criteria.

### Progress Meetings

The Master's Thesis Advisory Committee must meet at minimum every six months from the date of committee approval. Documentation of student progress using a progress meeting report form, must be signed by all members of the Thesis Advisory Committee, and submitted to MCGSBS administration.

### Preparation of Thesis

The thesis is the most important document that the Master's candidate will prepare during the course of graduate study and is a record of the scientific accomplishments that justify the awarding of the degree. The thesis is submitted to ProQuest. Consequently, MCGSBS has developed a standard for its format and style, which should be closely followed. Guidelines for Master's thesis are available on the MCGSBS intranet site under For Students/General Forms/Resources.

### Final Thesis Corrections

After the student has passed the final oral examination, the student has no more than 30 days from the defense date to complete all post-defense requirements, including final thesis corrections. The chair of the Thesis Advisory Committee must sign a form verifying the final corrections to the thesis have been made. MCGSBS will not certify completion of degree requirements until the final thesis has been submitted. If a student does not meet the thesis corrections deadline, they will be required to re-define their thesis.

The final thesis is uploaded into ProQuest for publication with the option of adding a publication hold if needed. If a student does not wish to have their thesis published, they must submit a PDF version of the final thesis to the graduate school by their student end date.

## Cost

Mayo Clinic employees accepted into the Master's program continue to receive the salary from their primary appointment and do not receive a stipend from MCGSBS.

Program Fees are charged for many Master's programs to cover administrative costs, due upon admission. The cost is covered by Mayo Clinic funds, either by the candidate's home department, lab, or Mayo Clinic's Career Investment Program (CIP) if eligible and selected by CIP.

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process.html). Applicants must be approved by the track program director and admission endorsed by MCGSBS.