

CLINICAL MASTER'S DEGREE PROGRAMS

The primary purpose of the Master of Science (M.S.) in Biomedical Sciences degree program in select clinical specialties is to enhance the scholarly dimension of the education of physicians and dentists who have an interest in academic medicine. Training in research is emphasized. The degree program provides a structure for development of a plan to address a research problem, an orderly approach to the project, assurance of the credentials of the mentor, appropriate supervision, and a suitable approach to the analysis and presentation of the results.

Courses in basic biomedical sciences are required to provide the student with the knowledge to address a research problem, conduct the research and evaluate the results. Courses in the track are required in addition to provide special skills, techniques or knowledge related to the specialty track. General program requirements and specialty track descriptions are outlined on the following pages. Degree candidates must be enrolled in the program at least one year prior to graduation.

- Dentistry Specialties (DENT) – Clinical Master's Degree (<https://catalog.mayo.edu/graduate-biomedical-sciences/clinical-masters-degree-programs/dentistry-specialties-clinical-masters/>)
- Obstetrics & Gynecology (OBG) - Clinical Master's Degree (<https://catalog.mayo.edu/graduate-biomedical-sciences/clinical-masters-degree-programs/obstetrics-gynecology/>)
- Orthopedics (ORS) - Clinical Master's Degree (<https://catalog.mayo.edu/graduate-biomedical-sciences/clinical-masters-degree-programs/orthopedics-clinical-masters/>)

Eligibility

This program is designed for Mayo residents who hold appointments to the clinical programs of Mayo School of Graduate Medical Education. Potential candidates for the degree must hold appointments of sufficient duration to complete degree program requirements.

The opportunity to take graduate school courses is a benefit and privilege for qualified trainees, but not a guarantee. Permission to take courses may be restricted and/or forfeited at the discretion of the learner's program director if expectations of the learner's primary training role are not being met. Any violation of Mayo Clinic policies may forfeit acceptance into a Master's degree program.

Minimum Requirements

It is expected that a minimum of six months will be devoted to research. Students are not admitted to a specialty track unless there is reasonable assurance that course work required for completion of degree requirements is available.

Transfer Credits

A total of 6 didactic credits may be transferred into the Clinical Master's 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 student's 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. This must be completed within six months of start date. A list of Faculty with Privileges can be found on the MCGSBS intranet site.

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

Thesis Protocol

This protocol must clearly define the candidate's role in the project and must have sufficient detail to permit review by an advisory committee. An Outline for the Master's Thesis Protocol is available on the MCGSBS intranet site. The Recommended Action on Thesis Protocol for Clinical Master's Degree form (thesis protocol form) is also available on the intranet site.

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.

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. The report form templates can be found on the Master's Forms web page.

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 at 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.

Tuition

Students in the Clinical Master's program continue to receive the salary from their residency/fellowship and do not receive a stipend from MCGSBS.

Program Fees may be charged to cover administrative costs, due upon admission. The cost is covered by Mayo Clinic funds, either by the candidate's home department or program.

Candidates must complete an Application for Graduate Training Master's Program in Biomedical Sciences-Clinical Specialties form. The application must be approved by the track program director and MCGSBS. This form is available from the MCGSBS Master's Programs web page.