

Graduate Handbook *Master of Science in Biomedical Informatics (MSBI)*

For the academic year 2026/2027

Last Revised June 2026

The MSBI Graduate Handbook supplements The Graduate School's (TGS) policies and procedures and should be considered together. The MSBI program (formerly HBMI) includes two concentrations: Health informatics and Bioinformatics. The following pages contain information about program-specific policies, procedures, and regulations. Students are subject to the regulations in effect at the time of matriculation. It is your responsibility as a student to be aware of these and TGS's regulations.

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MSBI Program Leadership

- Program Director (Health Informatics Track): Theresa L. Walunas, Ph.D.
 - Dr. Walunas is the MSBI degree's overall Program Director. She works with the leadership team to oversee the program's implementation and certifies that the program continues to meet the needs of our students. Dr. Walunas is the principal navigator for moving forward changes on a programmatic level.
 - Dr. Walunas oversees the MSBI Health Informatics Track curriculum and works with Co-Director Dr. Fourati, who oversees the Bioinformatics Track curriculum.
 - Dr. Walunas also answers questions regarding students' mentors and adjudicates general questions or student petitions.
 - Contact: t-walunas@northwestern.edu
- Co-Director (Bioinformatics Track): Slim Fourati, Ph.D.
 - Dr. Fourati co-directs the MSBI Program with Dr. Walunas. He specifically oversees the Bioinformatics Track of the program.
 - Contact: slim.fourati@northwestern.edu
- Associate Director Jodi L. (JJ) Johnson, Ph.D.
 - Dr. Johnson works with the directors to create a cohesive cohort of students and oversee how students are progressing through their program/track to fulfill their career objectives.
 - Dr. Johnson helps guide thesis-related research and writing.
 - Dr. Johnson is also responsible for faculty administrative aspects of the program including budgets, reviewing applications, and updating programmatic documentation.
 - Contact: jodi-johnson@northwestern.edu
- Program Administrator and Coordinator: Adam White
 - Mr. White serves as the initial point of contact for inquiries about and application to the MSBI program.
 - Mr. White coordinates admissions by ensuring that all required documentation is received and policies/practices are adhered to.
 - Mr. White is the point of contact for general student advising pertaining to details of the program.
 - Mr. White supports students in communicating with TGS, coordinating curriculum, and advising on TGS policies and processes.
 - He supports all faculty and adjunct faculty in development and approval of new courses, classroom coordination, and evaluations.
 - He tracks student enrollment, progress, and graduation.
 - Contact: 312-503-2244; adam-white@northwestern.edu

The leadership structure reflects the dual-track program, ensuring expertise across both health informatics and bioinformatics domains. The program is additionally supported by an advisory committee of faculty leaders in biomedical informatics, computational biology, AI in medicine, and translational research to guide curriculum and research direction. The program is hosted by the

[Institute for AI in Medicine](#) (I.AIM) and faculty who are within I.AIM or I.AIM members can serve as research advisors in addition to faculty from other institutes, departments, and programs.

Responsibilities of this group include:

- Assessing student course and program evaluations.
- Reviewing the admissions process.
- Reviewing finances.
- Suggesting process and curriculum improvements when needed.

MSBI Application Process

In general applicants should:

1. Carefully review all the guidelines, criteria, and frequently asked questions on [The Graduate School Applications](#) site. The MSBI program follows these guidelines.
2. Note that minimum requirements for applying to Master's programs at Northwestern include TOEFL iBT scores of 80 or above. Please see further [guidelines](#) and suggestions for English language proficiency.
3. Be willing to attend courses in person in the Chicago area – this is a mostly in-person program.
4. Have taken linear algebra or another advanced math course equivalent, and have programming proficiency in any programming language with preference for python and R or have an informatics employment background.
5. Preference will be given to applicants who have some research or biomedical experience.

How to Apply:

1. Review the information on The Graduate School's (TGS) admissions website at [Health and Biomedical Informatics: The Graduate School - Northwestern University](#)
2. Apply to the program formally through TGS at [Online Application Menu](#)
3. All application materials, including all letters of recommendation, must be uploaded into the application portal. Certificate students need only one letter of recommendation from whoever will be paying their tuition.
4. Interviews with the Program Director and Administrator may be included after initial review of the application.

Transcripts

Transcripts uploaded with your online application are generally not official documents. An official hard copy of each transcript is required to be submitted to the TGS Admission Office.

- Official transcripts must be sent directly from the issuing institution's Registrar (either mailed in sealed envelopes or emailed as official, electronic transcripts) to: Northwestern University, TGS, Office of Graduate Admission, 633 Clark Street, Evanston, IL 60208-1113; tgsadmission@northwestern.edu.
- Emailed transcripts must be sent from the issuing institution via a password protected, e-transcript delivery service. Please check with your institution's Registrar's Office to see if they offer an e-transcript service.
- Please do not submit your official transcripts until all degrees you earn prior to enrolling at Northwestern University are listed. Verifying the completion of your previous degrees is an important step in our transcript collection process.
- New students will not be permitted to register for their second quarter of study at Northwestern until all official transcripts (including degree-awarding transcripts) have been received by TGS.

For more information about the MSBI program please contact Adam White (adam-white@northwestern.edu), Program Administrator.

Registration Processes:

Once admitted, the Northwestern University [Academic Calendar](#) contains these and other useful dates and information for both new and continuing students.

You must have a **NETID** to access the student services system ([CAESAR](#)), your email, and other university systems. More information about obtaining this NETID is available at the [NUIT website](#)

Enter Emergency Notification Phone Numbers and Emergency Contacts

Before you can register for classes you must identify at least two phone numbers in [CAESAR](#) that the University can use to contact you in the event of a campus emergency, as well as an emergency contact person. Missing information in either category results in a [registration hold](#).

Registering should be completed via the [CAESAR](#) system. Please refer to the "[How to use CAESAR](#)" guide for pointers, or reach out to Adam White at adam-white@northwestern.edu with questions. This student information portal also allows students to review their funding and pay their student account.

Other processes:

[How to add a course](#)

[How to drop a course](#)

[How to swap a course](#)

Tuition and Financial Support:

Tuition is billed quarterly at [The Graduate School's full-time rate](#).

Internal Reduced Tuition Rates

Northwestern-affiliated employees may be eligible for special reduced tuition through the Feinberg School of Medicine and their employee benefits accordingly.

Notify TGS of External Funding (if applicable)

If you have accepted funding from a source other than Northwestern you must notify TGS's Financial Aid staff [via email](#) prior to your first quarter of enrollment so that your funding can be processed appropriately and you avoid any accounting errors in your student account. If necessary, TGS may make appropriate adjustments to your TGS funding package.

More information is available at the [graduate funding and financial aid website](#).

Other Requirements for Becoming an NU Student

Please see the health related requirements discussed on the [Northwestern University Health Service \(NUHS\) website](#). Please note that you will be charged for student health insurance as part of your fees – you must manually waive these fees if you have other sources of insurance.

WildCard - Northwestern Student ID cards are called “WildCards.” Your WildCard will allow you to enter university facilities and utilize various services around campus. New students typically obtain a WildCard the week before classes start. WildCards are printed at the WildCard office at Norris University Center in Evanston or Abbott Hall, Room 100 in Chicago. Save time and submit your WildCard photo before arriving to campus. [Learn more.](#)

Policy Guide

All students within TGS should be aware of [The Graduate School's academic policies](#) and Community Standards <https://www.northwestern.edu/communitystandards/>

Program overview

The MSBI program offers two concentrations:

- Health Informatics: Focused on clinical, public health, and healthcare data systems.
- Bioinformatics: Focused on high-throughput biological data analysis (e.g., genomics, transcriptomics, proteomics) and integration with clinical data.

This structure reflects the growing importance of multi-modal data integration, machine learning, and AI in biomedical research and healthcare delivery. Students matriculating together will be part of one cohort and take overlapping courses, but electives, thesis research projects, and thesis advisors may differ depending on the selected track.

Coursework

Success in informatics requires mastery of three distinct skill sets: 1) an understanding of the target domain; 2) an understanding of the nature and structure of the data within that domain; and 3) a mastery of the computational and statistical techniques for manipulating and analyzing the data. This translates into a number of more specific competencies that can be divided into three broad categories of courses: **Core Requirements**, those courses that every MSBI student is expected to complete; **Concentrations Requirements**, those courses are expected to be completed depending on your track (Health Informatics or Bioinformatics); **Selectives**, competencies that must be addressed, but can be fulfilled by any of a selection of courses; and **Electives**, courses that may strengthen a student's preparation for a particular project but are not tied to a specific competency requirement. Students must complete 10 units total, including core, concentration-specific requirements, and a research thesis.

Core Requirements (Both Concentrations)

- **HSIP 441: Biomedical Informatics Methods I**
- **HSIP 442: Biomedical Informatics Methods II**
- **HSIP 443: Biomedical Informatics Methods III**

Concentrations Requirements

Health Informatics Concentration

- **MHI 403: Fundamentals of Health Informatics**

Bioinformatics Concentration

- **DGP 485: Introduction to Omics Data**
- **DGP 486: Advanced in Bioinformatics**

Selective Courses

Each student should take at least one approved course in the following selective areas:

- Domain knowledge required for research/thesis work (examples include immunology, healthcare related courses, etc)

- Intermediate statistical methods
Students with minimal background in statistics may take Introductory statistics as an elective but must demonstrate competence at the intermediate level. Similarly, students with a strong interest and background in statistics may take a more advanced statistical course.
- Computation / Programming
Competence should be demonstrated with a course equivalent to 1 unit (1 quarter). The computer language R, Python, and Java are recommended. Students with a strong computing background may petition to substitute an elective.

Elective Courses

Electives may include any TGS-approved course pending approval of the MSBI directors and the student's advisor. Please note that approved courses will vary based on the individual student's program and prior training. Additional training is required if a student's thesis research includes human subjects.

Non TGS Courses

Students may take non-TGS courses. However, 9 TGS courses are required for graduation. TGS courses will be listed in CAESAR. Three quarters of full-time registration in TGS courses is required for degree (equivalent to 9, 1-unit TGS courses).

School of Professional Studies or Kellogg School of Management courses may serve as non-TGS courses but these must be approved by program leadership prior to registration. These may receive programmatic but not Graduate School credit.

Auditing

Full-time MSBI students may audit TGS courses. For more information, visit the [TGS website](#).

Permission numbers may be required to register for some courses

Some courses may require permission from the faculty instructor for MSBI students to be admitted. Please work with Adam White to be sure you can register for courses. Permission numbers are not guaranteed and are based on space availability in the course.

Other Professional Development Activities

The annual Chicago Biomedical Informatics Data Jam occurs every Fall. MSBI students are required to attend this event which helps students network with other informatics researchers across the city and provides a broad demonstration of research informatics.

Thesis Research with a Faculty Advisor

All program participants are expected to actively engage in research and regularly meet with at least one NU faculty advisor toward building a thesis. Other advisors internal or external to NU can be selected upon agreement of the primary advisor. It is strongly encouraged to identify an advisor as quickly as possible upon beginning the degree program. Thesis projects may be conducted in clinical, computational, or wet-lab integrated environments. A research project is generally based upon analyzing existing data generated through the advisor's research. The student will work with their advisor to select a thesis topic. The student will have at least a full semester to prepare the thesis for final review and submission. The degree does not require an

exam or dissertation committee. Advice can be sought from the program director to suggest appropriate faculty. Students must register selection of their research advisor with the program director. Students are encouraged to alert program administration of any changes to their mentorship relationship, including needing to change advisors, or in cases where a mentor leaves the university during the course of study. It is both advised and typical that students remain with the same research advisor during the span of their matriculation. Students must submit their thesis topic and final paper to Drs. Walunas, Fourati, and Johnson. Please collaborate with Adam White, the program administrator, to schedule necessary faculty meetings to review and discuss your finalized topic and any modifications. If additional time is required to prepare your thesis, please discuss with the program director to agree on processes. Students who complete and publish a journal article during their matriculation may, in agreement with their research mentor, petition to skip the proposal approval process and submit the published article as the thesis.

Conflict Resolution

Students should contact MSBI administration and the program director regarding potential conflicts that arise during the course of pursuing their degree. Conflict resolution skills are an important component of professional training for both students and faculty members and every effort should be made to resolve the conflict using these skills. TGS guidelines for resolving conflict can be found [here](#). Should the need arise, please note that Northwestern does have a mediation office should heightened mediation become necessary [Mediation: Office of Community Enrichment - Northwestern University](#). Program leadership are dedicated to working with students and faculty to resolve conflicts should they arise.

Academic Misconduct

Research misconduct is defined as fabrication, falsification, plagiarism, or other serious deviation from commonly accepted practices in the relevant scientific community for proposing, performing, or reviewing research, or in reporting research results. Research misconduct does not include honest error or differences in opinion. For additional information, please see The Office for Research Integrity's website: [Research Integrity - Northwestern University](#).

Satisfactory Academic Progress

Students can track their progress and activity in one place and apply to graduate once all requirements are met using the [Graduate Student Progress System](#).

Students must maintain satisfactory academic progress according to requirements set by TGS. These include: a GPA of at least 3.0, no more than 3 Y/X grades, and a time-to-completion of no more than 5 years.

Should remediation be necessary, please work with the MSBI directors and program coordinator. If necessary, TGS would also be apprised of remediation plans.

The MSBI degree adheres to [TGS's policies on probation and exclusion](#).

MSBI administration have the authority to make academic-based exclusions.

APPEAL PROCESS

Students wishing to appeal a program's exclusion decision may appeal to TGS in writing to the attention of the [Director of Student Services](#) within ten days of the date of the program's final written determination of exclusion to the student and include any supporting materials at that time. If no appeal is filed within the ten-day appeal period, the program's decision becomes final and not subject to appeal.

Exclusion appeals are reviewed by the Dean of TGS (or a designate) who may request additional information from, or a meeting with, the student and/or program before making a final decision. The Dean's decision will be made within 30 days of the submission and will be communicated in writing to both the student and the program. When resolution cannot be achieved within 30 days, students and programs will be informed in writing of the delay, and the final disposition will be achieved as quickly as possible.

The Dean's decision is final in both program and TGS exclusion proceedings with the exception of [academic dishonesty/misconduct](#) findings where the student has 10 days to appeal the TGS Dean's decision to the Provost.

Holds

If you have difficulty registering, you may see a **hold** on your account. Removal of holds involve:

- **Emergency Contact hold:** Update/add/confirm your emergency contact information in [CAESAR](#).
- **Financial Hold:** if you are encountering this message, please reach out to Adam White
- **Activation Hold:** This message indicates that you do not have permission to register at the time at which you are attempting to register. Reference the [Academic Calendar](#) to confirm dates.
 - If you were not enrolled in courses for more than one quarter and you did not hold your registration open by enrolling in TGS 514 (or 512/513), you may have to reactivate with TGS before registering. [Directly contact a TGS Student Services account representative:](#)
- **Documentation or Test Hold:** [Contact your Student Services account representative](#) (see assignments based on last name above)
- **Immunization Hold:** Contact Student Health Services

Leaves and Continuous Registration Requirements

All students **must** maintain continuous registration per [TGS's registration policies](#). If you need to take time off, it will be necessary to maintain that registration following the policy below that applies to you:

- One Term Off
 - Degree Seeking Students
 - Send a request to your TGS student services representative at gradservices@northwestern.edu.
 - Upon approval, you will be enrolled in TGS 514 at no cost.
 - If you are not approved, you will need to enroll in TGS 512 for \$100. Students are responsible for the fee associated with this course.
 - Enrollment in TGS 514 or 512 will allow you to maintain active status and prevent you from applying for reinstatement to the program.
 - Non-degree or Certificate Students
 - No request is necessary to take time off, but you must contact your TGS student service at gradservices@northwestern.edu to be reinstated in the subsequent quarter.
- Extended time Off
 - If you need to take a leave of absence for medical, personal, or other reasons, you will

need to fill out the Petition for Absence form via TGS forms in CAESAR.

- If your petition is approved, you must submit a request to your student services assistant at gradservices@northwestern.edu to enroll in TGS 514

Exceeding the Degree Time Limitation

Students must complete all the requirements for the master's degree within 5 years of their initial registration in TGS. Any student beyond his/her degree deadline must register for TGS 513 each quarter in order to maintain active status and enroll in courses. A \$1,000 fee is associated with TGS 513 registration each quarter beyond these 5 years. Students are responsible for paying this fee. Graduate Students who are beyond their degree deadline are subject to academic probation.

Degree Completion and Graduation

Students who have completed the MSBI degree requirements must complete two forms prior to the end of the term when they intend to graduate. These forms are 1) the Application for Degree and 2) the Master's Degree Completion Form. Please see

- 1) Application for Degree Form
 - a. Log into [CAESAR](#)
 - b. Navigate to "For Students/TGS Forms/Application for Degree"
 - c. Enter your information and submit
- 2) Master's Degree Completion (MDC) Form Instruction
 - a. Log into [CAESAR](#)
 - b. Navigate to "For Students/TGS Forms/Master's Degree Completion Form"
 - c. Enter your thesis title.
 - d. For "Examination Date", which is a required field, use a date **prior to** the MDC deadline for the quarter in which you wish to graduate.
 - i. If your committee chair is not included in the drop-down menu, please select Dr. Theresa Walunas (Health Informatics track) or Dr. Slim Fourati (Bioinformatics track) and list your advisor as co-chair.
 - ii. If your advisor is not TGS faculty and is not included in the drop-down list, identify Dr. Theresa Walunas (Health Informatic track) or Dr Slim Fourati (Bioinformatics track) as your committee co-chair and list your advisor as a committee member.
 - e. In order to receive the degree, all courses must be graded and students are responsible to check that grading has been completed. You may check grades unofficially through [CAESAR](#), or request an official transcript through the [Registrar's office](#).
 - i. If a course has not received a grade, contact either the instructor for the course or Adam White.

Receipt of Diploma

Please see the [Graduation and Diploma Mailing: The Graduate School - Northwestern University](#) information for details about receipt of the diploma and what to do if you need a copy of the diploma prior to receipt of the original.

Helpful links for life as a Northwestern graduate student:

Student Involvement

TGS offers a number of ways to engage with fellow students and postdoctoral fellows on campus. [Learn more.](#)

Northwestern Career Advancement

[Northwestern Career Advancement \(NCA\)](#) fosters excellence in career development, preparation, and professional opportunities. Career counseling and advising services are offered through NCA, as are career exploration and development activities and programming.

Northwestern University Libraries can assist with research and study. Please see the [Northwestern University Libraries](#) website for more information.

English Language Programs

This office supports international students who wish to improve their English language skills. Services are offered year-round, and include [group language classes](#), [one-on-one tutoring](#), and [NativeAccent™ online speech training software](#). Services are all offered free of charge and are limited to students and employees of Northwestern University. For more information, contact staff at elp@northwestern.edu, or visit the [English Language Programs website](#).

The [Division of Student Affairs](#) engages students in the activities and culture on campus and in the surrounding community. Student Affairs offers support to students in need through providing learning programs, services, and mentoring to sustain a safe and healthy Northwestern community.

AccessibleNU

This office serves, supports, and empowers Northwestern students with disabilities by ensuring equal access to fully participate in academic programming and all other facets of university life. [AccessibleNU](#) connects students with resources and services within the University to meet the unique requests of individuals in our population.

Wellness Services

Northwestern's Health Services provide quality medical care to students on both the [Chicago](#) and [Evanston](#) campuses. All full-time students who register for three or four courses are eligible to use outpatient services. Northwestern's [Counseling and Psychological Services \(CAPS\)](#) serves as the primary mental health service at Northwestern with offices on both campuses. Northwestern students who are enrolled full-time have access to the Henry Crown Sports Pavilion, Northwestern's main gym. [Learn more on their website.](#)

Housing

For information on housing for graduate students, please refer to the [Graduate Housing website](#). The on-campus housing application is available online but requires a NetID login. If your NetID is not yet activated,

please contact the housing office and request an application via email.

U-Pass

TGS and the Chicago Transit Authority provide the CTA University Pass (U-Pass) to full- time graduate students who pay an Activity Fee. The CTA U-Pass program uses fare cards called Ventra, a contactless payment system that serves as a U-Pass. This can be used for transportation on [CTA buses](#) and trains, [Pace buses](#) as a fare card (charges apply).

Child and Family Resources

TGS has a [Family Resource Liaison](#) for needs related to student's families.

Nondiscrimination Statement:

Northwestern University prohibits discrimination on the basis of actual or perceived race, color, religion, creed, national origin, ethnicity, caste, sex, pregnancy, sexual orientation, gender identity, gender expression, parental status, marital status, age, disability, citizenship status, veteran status, genetic information, reproductive health decision making, height, weight, or any other class of individuals protected from discrimination under federal, state, or local law, regulation, or ordinance or any other classification protected by law in the matters of admissions, employment, housing or services or in the educational programs or activities it operates, as required by Title IX of the Education Amendments of 1972; Title III of the Americans with Disabilities Act of 1990, as amended in 2008; Section 504 of the Rehabilitation Act of 1973; Title VI and VII of the Civil Rights Act of 1964; the Age Discrimination Act of 1975; the Age Discrimination in Employment Act of 1967; and any other federal, state, or local laws, regulations, or ordinances that prohibit discrimination, harassment, and/or retaliation.

Title IX Statement:

It is the policy of Northwestern University to comply with Title IX of the Education Amendments of 1972, which prohibits discrimination (including sexual harassment and sexual violence) based on sex in the University's educational programs and activities. Title IX also prohibits retaliation for asserting or otherwise participating in claims of sex discrimination.

The Title IX coordinator and the deputy coordinators have been designated to oversee Northwestern's compliance with Title IX and to respond to reports of violations. For more information about Title IX, go to Northwestern's Title IX website.

A person may also file a complaint with the Department of Education's Office for Civil Rights regarding an alleged violation of Title IX by visiting the U.S. Department of Education's website or calling (800) 421-3481.

More information can be found [here](#).

The University complies with all federal and state laws that protect individuals with disabilities from discrimination based on their disability or perceived disability status. As such, reasonable accommodations and auxiliary aids and services are available to individuals with disabilities when such modifications and services are necessary to access the institution's programs and services.

Inquiries about Title IX or the University's prohibitions against discrimination, harassment, and retaliation can be directed to the Associate Vice President for Civil Rights and Title IX Compliance, the ADA/504 Coordinator (for disability-related questions) or to the U.S. Department of Education Office for Civil Rights at the contact information listed below:

Complaints and inquiries regarding discrimination, harassment, and retaliation involving federal laws may be directed to: U.S. Department of Education Office for Civil Rights complaint assessment system <https://ocrcas.ed.gov/>

Any person who believes that the University as a federal contractor has violated nondiscrimination or equal opportunity obligations may contact the Office of Federal Contract Compliance Programs (OFCCP) <https://www.dol.gov/agencies/ofccp>