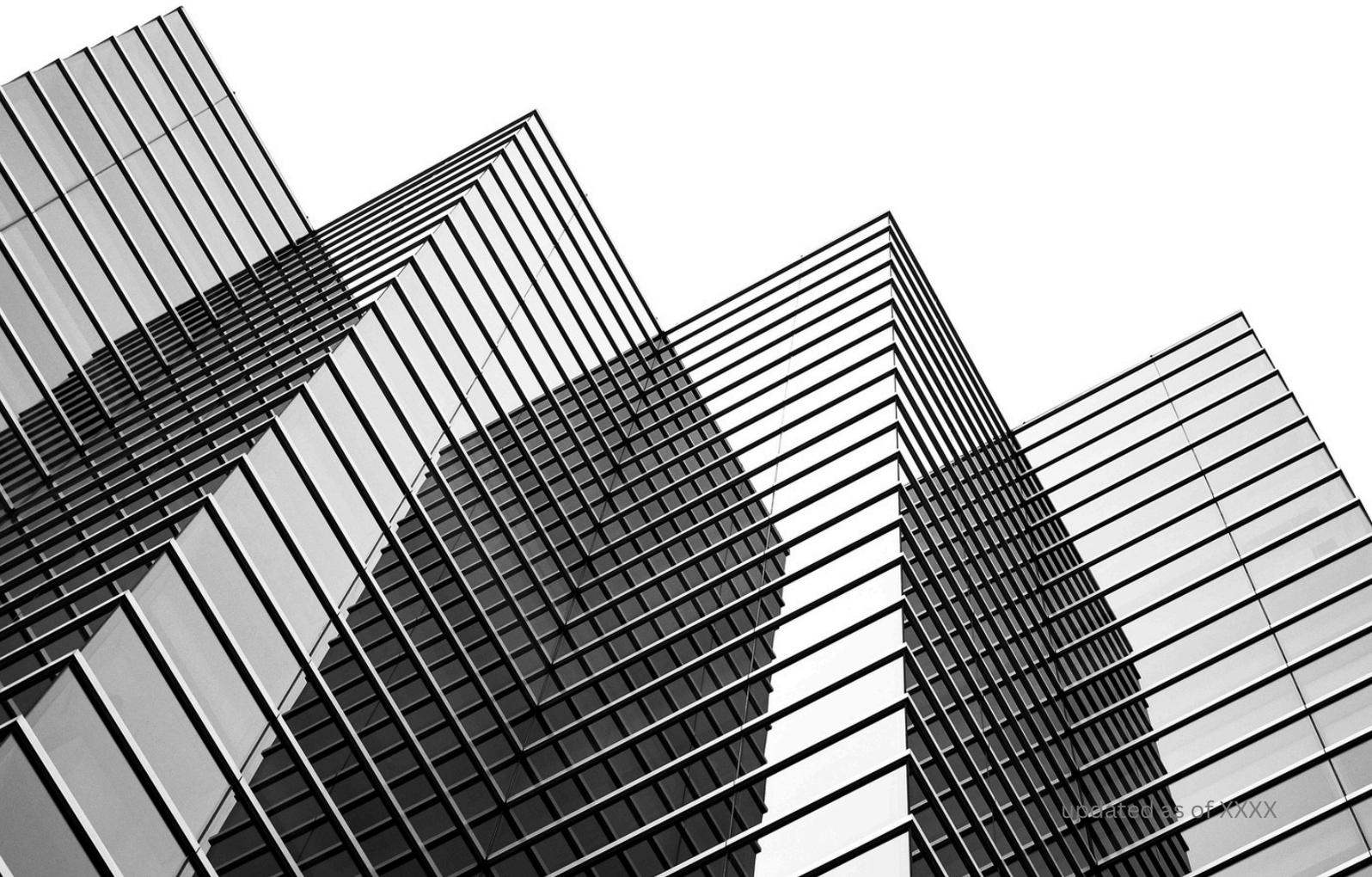


# MSc in Biomedical Informatics

## STUDENT HANDBOOK



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# Master's Specialisation

The Master of Science in Biomedical Informatics (MSc in BMI) is offered by the NUS Yong Loo Lin School of Medicine (NUSMed) as a full time (1 year) or part-time (2 years) postgraduate degree programme by Coursework.

Students can choose to specialise in one of two tracks:



Analytics



Hospital Management

# Graduation Requirements

To graduate from the NUS MSc-BMI programme, students have to meet the following criteria:

① Programme and Specialisation: Complete a total of **40 Units** comprising:



Students will be required to:

- Complete 5 courses from the Core Course list (20 Units) and;
- Choose and complete 5 courses from the Elective Course list for each specialisation (20 Units)



# Graduation Requirements

To graduate from the NUS MSc-BMI programme, students have to meet the following criteria:

- 2 For continuation of candidature, a student must achieve satisfactory progress in their subject based on the outlined guidelines.

**ACHIEVE**

**GPA 3.0**

————— ★ ★ ★ —————  
Students must achieve a final Grade Point Average (GPA): **3.0**  
(average grade of B-) out of 5.0 to graduate

————— ★ ★ ★ —————



## WARNING

Academic warnings  
will be issued when  
GPA < 3.0

## DISMISSAL & REFUSE RE-ADMISSION

- GPA < 1.5 in the first semester of study or;
- GPA < 2.5 for two consecutive semesters of study or;
- GPA < 3.0 for three consecutive semesters of study



# Suggested Study Plan

## Full-time Candidature (complete in 1 year)



### Semester 1

- 4 Core courses (16 units)
- 1 Elective course (4 units)



### Semester 2

- Capstone Project (4 units)
- 4 Elective courses (16 units)

Maximum candidature: **2 academic years (4 semesters)**

## Part-time Candidature (complete in 2 years)

### Semester 2

- 1 Core course (4 units)
- 2 Elective courses (8 units)

### Semester 4

- Capstone Project (4 units)
- 1 Elective course (4 units)



### Semester 1

- 2 Core courses (8 units)



### Semester 3

- 1 Core course (4 units)
- 2 Elective courses (8 units)



Maximum candidature: **4 academic years (8 semesters)**

\*The study plan is only for reference

# Suggested Study Plan

## Pre-allocation of Core Courses

**Full-time (FT)** students will be pre-allocated the core courses below for the first semester of the academic year:

- BMI5101
- BMI5306
- BMI5207
- IT5001

**Part-time (PT)** students will be pre-allocated the core courses below for the first semester of the academic year:

- BMI5101
- BMI5306

1. You do not need to register for the core courses pre-allocated to you during the course registration exercise.
2. Should you wish to maximise your workload (taking 5 courses for FT; 3 courses for PT), please look out for communications from the department about how to register for elective courses.
3. The course registration exercise generally starts 3 weeks before each semester. Please look out for announcements from NUS.

### IMPORTANT

- **Maximum load** for full-time and part-time students is 20 and 12 units respectively.
- **Minimum load** for full-time and part-time students is 12 and 4 units respectively.
- Students may change their specialisation except in their last semester of study.
- Students are responsible for ensuring that they meet all course requirements for their desired specialisation.

# Course Outline: Core Courses

BMI5101

Advanced Biomedical Informatics (S1)

BMI5111

Capstone Project (S1 & S2)

BMI5207

Medical Data and Data Processing (S1)

BMI5306

Advanced Agile Project Management (S1)

IT5001X

Software Development Fundamentals (S1 & S2)

*Note: S1 = Semester 1, S2 = Semester 2*

# Course Outline: Specialisation

## Specialisation: Analytics

### Elective Courses

<u>BMI5102</u>	Health Sciences for Non-Clinicians (S1)
<u>BMI5109</u>	Advanced Scientific Research Methods (S1 & S2)
<u>BMI5110</u>	Molecular Informatics (S2)
<u>BMI5206</u>	Advanced Human Factors Engineering (S2)
<u>IT5003*</u>	Data Structures and Algorithms (S1 & S2)
<u>IT5005*</u>	Artificial Intelligence (S1 & S2)
<u>IT5006*</u>	Fundamentals of Data Analytics (S1 & S2)
<u>SPH6004</u>	Advanced Statistical Learning (S2)
<u>MDG5241</u>	Advanced Statistical Methods for Bioinformatics (S2)

Note: S1 = Semester 1, S2 = Semester 2

\*Prerequisite: IT5001X

Please note that courses availability are subjected to changes.

# Course Outline: Specialisation

## Specialisation: Hospital Management

### Elective Courses

<u>BMI5102</u>	Health Sciences for Non-Clinicians (S1)
<u>BMI5106</u>	Clinical Decision Support Systems (S2)
<u>BMI5107</u>	Advanced Evidence Based Patient Care (S2)
<u>BMI5108</u>	Advanced Value Based Healthcare (S1)
<u>BMI5109</u>	Advanced Scientific Research Methods (S1 & S2)
<u>BMI5201</u>	Advanced Clinical Data Systems (S2)
<u>IT5005*</u>	Artificial Intelligence (S1 & S2)
<u>IT5006*</u>	Fundamentals of Data Analytics (S1 & S2)
<u>MDG5248</u>	Ethics of Health Data and Artificial Intelligence (S2)
<u>SPH5007</u>	Implementing Public Health Programmes and Policies (S1)
<u>SPH5412</u>	Economic Methods in Health Technology Assessment S2)
<u>SPH5003</u>	Health Behaviour and Communication (S1)
<u>SPH5401</u>	Health Economics and Financing S2)
<u>SPH6004</u>	Advanced Statistical Learning (S2)
<u>DL5102</u>	Digital Agility & Change Leadership (S1)
<u>DL5201</u>	Strategic Thinking & Digital Foresight (S2)
<u>DL5302</u>	Managing Digitalisation Complexity (S2)

*Note: S1 = Semester 1, S2 = Semester 2*

*\*Prerequisite: IT5001X*

*DL courses are subjected to pre-interview selection*

**Please note that courses availability are subjected to changes.**

# BMI5111: Evaluation of Capstone Projects

Week

1-12

Work in progress

Week

13

Project Report Submission

Week

14-15

Presentation & Research Performance

Please note the following details/requirements:

1. The school will not source and assign projects to the students. Students are expected to approach the supervisors on their own. However, the school may provide guidance and assistance when needed.
2. You, your supervisor, and the project must be based in Singapore.
3. Your supervisor could be from the private industry (e.g., pharmaceutical, health data analytics, or consultancy), public industry (e.g., healthcare providers), or academics (NUS, or other research institutions), as long as requirement 2) is fulfilled.
4. All students must submit the capstone job approval form for approval to [nusdbmi@nus.edu.sg](mailto:nusdbmi@nus.edu.sg) at least 2 weeks before the start of the Academic Semester. The form is available [here](#).
5. At the end of the course, you are required to submit a report and present about the project. Your supervisor will also grade your research performance. All components will be counted towards your final score.

# Administrative Policies

At all times, students are responsible for understanding and complying with the policies, and procedures established by the Senate and the University administration.

## **Concurrent Degree and External Courses**

Unless approval is granted by the University, no student may concurrently be a candidate for more than one degree program or register as a candidate of NUS and of another university or institute.

Students who enroll for another degree program or attend external courses without the approval of the University may be subjected to disciplinary action by the School.

## **Academic Dishonesty - Plagiarism**

All students share the responsibility for upholding the academic integrity and reputation of the University. Academic honesty is a necessary virtue in the pursuit and acquisition of knowledge, and the University expects each student to uphold academic honesty.

Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examination/tests, or inappropriate use of resources.

There are many forms of academic dishonesty and plagiarism is one of them.

# Administrative Policies

## Academic Dishonesty - Plagiarism (continued)

Plagiarism is generally defined as 'the practice of taking someone's work or ideas and passing off as one's own' (The New Oxford Dictionary of English). The University does not condone plagiarism.

Plagiarism constitutes serious academic misconduct as it deteriorates the quality of the program and the originality of the dissertation, In order to prevent plagiarism, all students from NUS Medicine are required to use the plagiarism prevention software before they submit their Continuous Assessment.

The University views plagiarism as a serious offence. Any student who is guilty of the offence will be subjected to disciplinary action by the University. For more information, please read the guidelines below:

About plagiarism: <https://www.nus.edu.sg/celc/statements-and-e-resources-on-plagiarism/>

About student discipline and conduct: <https://www.nus.edu.sg/registrar/administrative-policies-procedures/graduate/discipline>

About other guidelines and resources: <https://www.nus.edu.sg/registrar/administrative-policies-procedures/graduate>

# Administrative Policies

## Policy on Use of Artificial Intelligence Tools

We remind students of the importance of adhering to the highest standards of academic integrity. Taking the output of AI and presenting it as your own work, without proper acknowledgement, constitutes plagiarism.

Where use of AI tools is allowed, students should always critically evaluate the output of AI for aspects such as engagement with the assignment, depth of analysis, clarity of reasoning, and appropriateness of tone and style, and refine the output appropriately for your submission.

Please refer to the general message [here](#) and the guidelines on the use of AI tools in your academic work [here](#).

## Professional Service for Written Dissertation

Enlisting of professional service for dissertation editing is strictly not allowed by the University. Students are expected to have a minimum good standard in their English Proficiency Level.

# Administrative Policies

## Assessments & Attendance

Students shall take part in all prescribed assessments, e.g., quizzes, presentations, exams, and take-home assignment to the best of their ability.

A student may apply for Special Consideration for a make-up assessment if his/her attendance or performance in an assessment/examination has been affected by significant reasons, such as:

### Medical Grounds

- Serious illness, medical or mental health condition, e.g., condition or operation resulting in hospitalisation, serious injury, severe asthma, high fever, severe anxiety or depression.

### Non-Medical Grounds

- Serious trauma resulting from serious incident, e.g., victim of crime, accident or disaster (e.g. fire).
- Attending to immediate family member's severe medical or mental health condition.
- Bereavement in the immediate family, e.g., loss of a parent, grandparent, sibling, spouse or child.
- Representing Singapore or NUS in endorsed/recognised international competitions.

Ailments that do not adversely affect a student's performance, e.g., slight cold, sore throat or headache, normally do not constitute sufficient reason for Special Consideration. Additionally, misreading of the examination timetable is not a valid reason for Special Consideration.

Student may write to [nusdbmi@nus.edu.sg](mailto:nusdbmi@nus.edu.sg) for such request or questions.

# Administrative Policies

## Full-time Students and Employment

University education at NUS is demanding, intensive, and rigorous, and thus requires a high degree of commitment. Full time students are expected to commit themselves to at least 40 hours of study per week. The University strongly discourages full-time students from taking up employment during term time that might interfere with their studies. Students should note that commitments from employment will not be accepted as valid reasons for absence, uncompleted work, late submission of work, or poor performance, and may lead to exclusion from certain full-time programs.

Students holding student passes should attend classes regularly according to ICA regulations. If the student fails to attend classes for a continuous period of 7 days, the student's pass is liable to be cancelled on the 8th day.

## Amendments and Revisions

The University shall be entitled to make and issue additional guidelines/requirements with respect to all out graduate programs from time to time, and to revise such guidelines/requirements as it deems fit. All such guidelines/requirements shall be deemed to be part of the graduate programs.

# Administrative Policies

## **NUS Personal Data Notice for Students**

We strive to manage, administer, use and protect our students' data to the best of our abilities.

We may capture photos of our students during classes or events, e.g., Commencement Dinner, Social Night. Should you wish to withdraw your consent for the possible use of any photos that you are in, please write to us and your request shall be processed in seven working days.

[Read more](#) on NUS Personal Data Notice for Students.

## **Check Your NUS Email Regularly**

**Please check your NUS email regularly.** There may be important communications or announcements from time to time.

# Resources and Contact

## Contact



nusdbmi@nus.edu.sg

## Helpful Resources

- [Frequently Asked Questions](#)
- [NUS MSc in Biomedical Informatics](#)
- [NUS Office of Student Affairs](#)
- [NUS CourseReg](#)
- [NUSMods](#)
- [NUS Student Finance Matters](#)
- [NUS Academic Calendar](#)
- [Pre-Admission Medical Examinations](#)
- [Student Pass Matters](#)