MSc Biomedical Informatics
STUDENT HANDBOOK
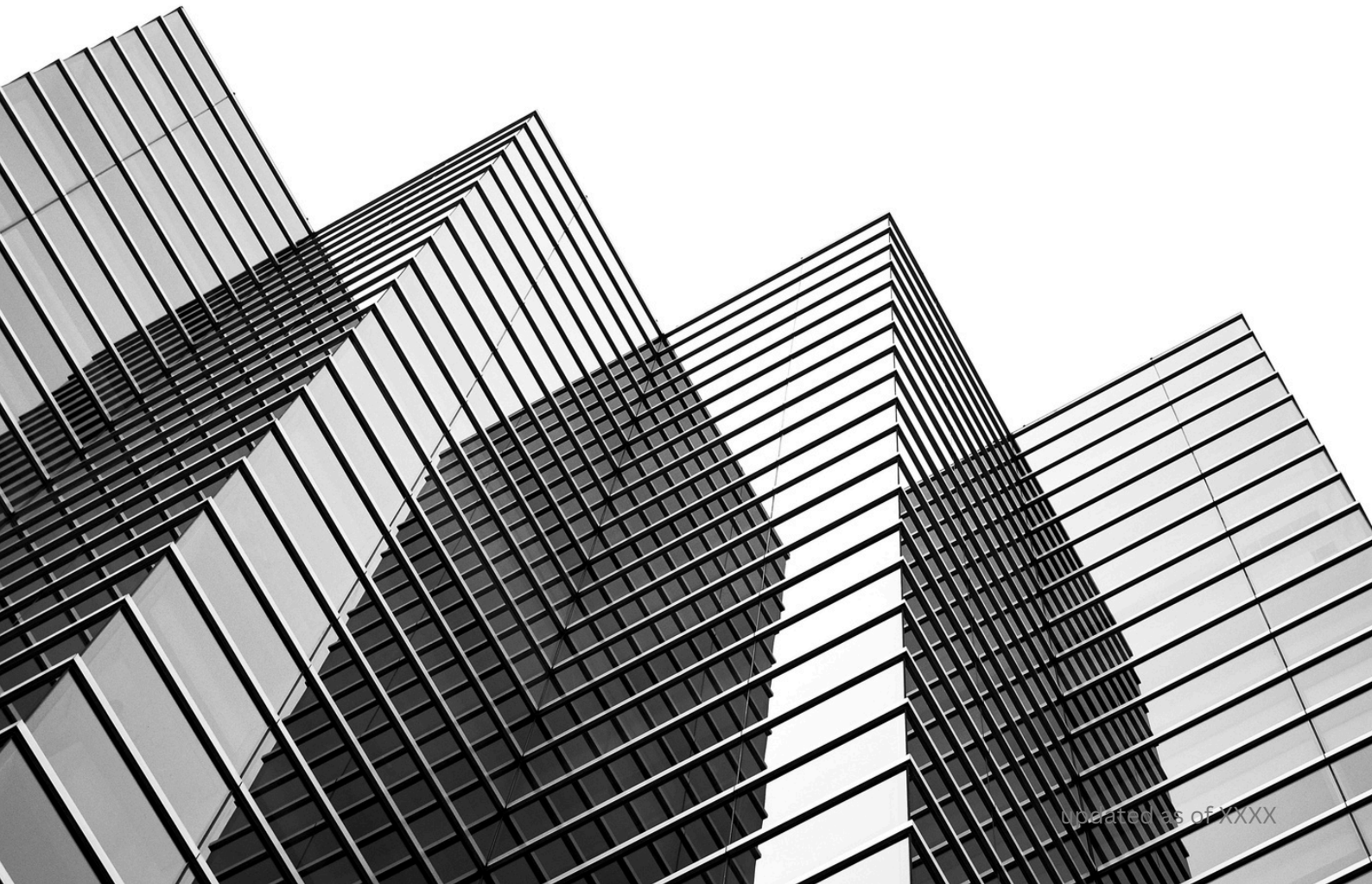
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Course Requirements

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** compromising:

20 units Core Courses **+** 20 units Elective Courses → 40 units

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

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⚠ WARNING

Academic warnings will be issued when GPA < 3.0

DISMISSAL AND 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)

Part-time Candidature (complete in 2 years)

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

Semester 4
- Capstone (4 units)

Semester 1
- 2 Core courses (8 units)

Semester 3
- 1 Core course (4 units)
- 2 Elective courses (8 units)

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 (AY):

- BMI5101
- BMI5306
- BMI5207
- IT5001

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

- 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 are allowed to 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)
IT5001	Software Development Fundamentals (S1)

Note: S1 and/or S2 indicates the semester the course is available.

Course Outline: Specialisation

Specialisation: Analytics

Elective Courses

BMI5102	Health Sciences for Non-Clinicians (S1)
BMI5109	Advanced Scientific Research Methods (S2)
BMI5110	Molecular Informatics (S2)
BMI5206	Advanced Human Factors Engineering (S2)
DL5102	Digital Agility & Change Leadership (S1 & S2)
IT5003*	Data Structures and Algorithms (S1 & S2)
IT5005*	Artificial Intelligence (S1 & S2)
IT5006*	Fundamentals of Data Analytics (S1 & S2)
SPH6004	Advanced Statistical Learning (S2)
SPH5409	Qualitative Methods in Public Health (S1 & S2)
MDG5241	Advanced Statistical Methods for Bioinformatics (S2)

Note: S1 and/or S2 indicates the semester the course is available and subjected to changes.

*Prerequisite: IT5001

Course Outline: Specialisation

Specialisation: Hospital Management

Elective Courses

BMI5102	Health Sciences for Non-Clinicians (S1)
BMI5106	Clinical Decision Support Systems (S2)
BMI5107	Advanced Evidence Based Patient Care (S1)
BMI5108	Advanced Value Based Healthcare (S1 & S2)
BMI5201	Advanced Clinical Data Systems (S2)
IT5005*	Artificial Intelligence (S1 & S2)
IT5006*	Fundamentals of Data Analytics (S1 & S2)
MDG5248	Ethics of Health Data and Artificial Intelligence (S2)
SPH5007	Implementing Public Health Programmes and Policies (S1)
SPH5412	Economic Methods in Health Technology Assessment S2)
SPH5003	Health Behaviour and Communication (S1)
SPH5416	Introduction to Integrated Care (S1)
SPH5401	Health Economics and Financing S2)
SPH6004	Advanced Statistical Learning (S2)
DL5102	Digital Agility & Change Leadership (S1)
DL5201	Strategic Thinking & Digital Foresight (S2)
DL5302	Managing Digitalisation Complexity (S2)

Note: S1 and/or S2 indicates the semester the course is available and is subjected to changes.

*Prerequisite: IT5001

BMI5111: Evaluation of Capstone Projects

Week

1-12

Work in progress

Week

13

Project Report Submission

Week

14-15

Individual Presentation

Please note the following details/requirements:

- 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.

- You, your supervisor, and the project must be based in Singapore.

- 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.

- At the end of the course, you are required to submit a report and do a presentation about the project. Both will count towards your BMI5111 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 Oxoford 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 dissertion, 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.

Further information on plagiarism is available at
https://www.nus.edu.sg/celc/statements-and-e-resources-on-plagiarism/

For information on Student Discipline, students may visit
https://www.nus.edu.sg/registrar/administrative-policies-procedures/graduate/discipline

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 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., 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