



NUS
National University
of Singapore

Yong Loo Lin
School of Medicine

STUDY PLAN

MASTER OF SCIENCE IN APPLIED
BIOMEDICINE (MSc ABM)



PROPOSED STUDY PLAN

GRADUATION REQUIREMENTS

To graduate, students must complete 40 units of coursework.

Students can choose to specialise in Vaccinology and Immunotherapy, Infectious Diseases Management, or Drug Discovery and Development, or pursue the programme without a specialisation.

Vaccinology and Immunotherapy Specialisation

| | Core Courses | | | Compulsory Courses | | | Elective Courses |
|--------------|--------------|-------------------------------------|------------|--------------------|---------------------------------------------------------|---------|--------------------------------------------------------------------------------------------------------------|
| Semester 1 | ABM5003 | Biomedical Innovation & Enterprise | 4 units | ABM5101 | Applied Immunology | 4 units | <div>Choose:</div> <div>Capstone Project</div> <div>OR</div> <div>2 elective courses to fulfil 8 units</div> |
| | BMI5101B | Advanced Biomedical Informatics | 4 units | ABM5102 | Vaccine Development and its Modern Applications | 4 units | |
| | | | | ABM5103 | Advanced Technologies in Immune Therapeutic Development | 4 units | |
| Semester 2 | ABM5002 | Advanced Biostatistics for Research | 2 units | ABM5104 | Microbiome-Aging-Immunity Crosstalk | 4 units | |
| | | | | MDG5207 | Clinical Immunology and Immunotherapeutics | 4 units | |
| Special Term | ABM5001 | Leadership in Biomedicine | 2 units | | | | |
| | | | 12 units + | | | | 20 units + |
| | | | | | | | 8 units |
| | | | | | | | Total |
| | | | | | | | 40 units |

Infectious Diseases Management Specialisation

| | Core Courses | | | Compulsory Courses | | | Elective Courses |
|--------------|--------------|-------------------------------------|------------|--------------------|----------------------------------------------------|----------|------------------|
| Semester 1 | ABM5003 | Biomedical Innovation & Enterprise | 4 units | ABM5102 | Vaccine Development and its Modern Applications | 4 units | Choose: |
| | BMI5101B | Advanced Biomedical Informatics | 4 units | ABM5105 | Drugs Used in Infectious Diseases | 4 units | |
| | | | | MDG5246 | Infectious Diseases: Principles & Research Methods | 4 units | |
| Semester 2 | ABM5002 | Advanced Biostatistics for Research | 2 units | ABM5107 | One World, One Health: Ecosystems, Animals and Us | 4 units | Capstone Project |
| | | | | SPH5201 | Control of Infectious Diseases** | 4 units | OR |
| | | | | SPH5205 | Urban Outbreak Management** | 4 units | |
| Special Term | ABM5001 | Leadership in Biomedicine | 2 units | SPH5206 | Urban Field Epidemiology** | 4 units | |
| 12 units + | | | 20 units + | | | 8 units | |
| Total | | | | | | 40 units | |

Drug Discovery and Development Specialisation

| | Core Courses | | | Compulsory Courses | | | Elective Courses |
|--------------|--------------|-------------------------------------|------------|--------------------|-----------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------|
| Semester 1 | ABM5003 | Biomedical Innovation & Enterprise | 4 units | ABM5105 | Drugs Used in Infectious Diseases | 4 units | <div>Choose:</div> <div>Capstone Project</div> <div>OR</div> <div>2 elective courses to fulfil 8 units</div> |
| | BMI5101B | Advanced Biomedical Informatics | 4 units | MDG5204 | Advanced Topics in Pharmacology | 4 units | |
| Semester 2 | ABM5002 | Advanced Biostatistics for Research | 2 units | ABM5106 | Anticancer Therapeutics | 4 units | |
| | | | | MDG5232 | Current Practices in Biotechnology | 4 units | |
| | | | | MDG5233 | Current Topics in Drug Design and Development | | |
| Special Term | ABM5001 | Leadership in Biomedicine | 2 units | | | | |
| 12 units + | | | 20 units + | | | 8 units | |
| Total | | | | | | 40 units | |

Non-Specialisation

| | Core Courses | | | Compulsory Courses |
|--------------|--------------|-------------------------------------|-------------------|-------------------------------------------------------------------------------------|
| Semester 1 | ABM5003 | Biomedical Innovation & Enterprise | 4 units | Select a combination of elective courses and/or capstone project to fulfil 28 units |
| | BMI5101B | Advanced Biomedical Informatics | 4 units | |
| Semester 2 | ABM5002 | Advanced Biostatistics for Research | 2 units | |
| Special Term | ABM5001 | Leadership in Biomedicine | 2 units | |
| | | | 12 units + | 28 units |
| | | | Total | 40 units |

**If a course has already been taken as a compulsory requirement in the specialisation, it cannot be counted again as an elective.*

***Students in the Infectious Diseases Management Specialisation may read only one of the three approved SPH courses, to count towards their compulsory specialisation requirements.*

COURSE OFFERINGS

Please note that courses are available once per academic year (AY). You may refer to [NUSMods](#) for more information regarding the courses and plan your timetable.

Semester 1

| TYPE | COURSE CODE | PROPOSED COURSE TITLE | UNITS | NOTES |
|----------|-------------|---------------------------------------------------------|-------|-----------|
| Core | ABM5003 | Biomedical Innovation & Enterprise | 4 | |
| Core | BMI5101B | Advanced Biomedical Informatics | 4 | |
| Elective | ABM5004 | Capstone Project* | 8 | |
| Elective | ABM5101 | Applied Immunology | 4 | VI / IDM |
| Elective | ABM5102 | Vaccine Development and its Modern Applications | 4 | VI |
| Elective | ABM5103 | Advanced Technologies in Immune Therapeutic Development | 4 | VI |
| Elective | ABM5105 | Drugs Used in Infectious Diseases | 4 | IDM / DDD |
| Elective | ABM5108 | Infectious Diseases: Principles & Research Methods | 4 | IDM |
| Elective | MDG5204 | Advanced Topics in Pharmacology | 4 | DDD |
| Elective | MDG5229 | Advanced Topics in Signal Transduction | 4 | |

Semester 2

| TYPE | COURSE CODE | PROPOSED COURSE TITLE | UNITS | NOTES |
|----------|-------------|---------------------------------------------------|-------|-------|
| Core | ABM5002 | Advanced Biostatistics for Research | 2 | |
| Elective | ABM5004 | Capstone Project* | 8 | |
| Elective | ABM5104 | Microbiome-Aging-Immunity Crosstalk | 4 | VI |
| Elective | ABM5106 | Anticancer Therapeutics | 4 | DDD |
| Elective | ABM5107 | One World, One Health: Ecosystems, Animals and Us | 4 | IDM |
| Elective | MDG5102 | Techniques in Biomedical Research | 4 | |
| Elective | MDG5207 | Clinical Immunology and Immunotherapeutics | 4 | VI |
| Elective | MDG5232 | Current Practices in Biotechnology | 4 | DDD |
| Elective | MDG5233 | Current Topics in Drug Design and Development | 4 | DDD |
| Elective | SPH5201 | Control of Infectious Diseases** | 4 | IDM |
| Elective | SPH5205 | Urban Outbreak Management** | 4 | IDM |

Special Term

| TYPE | COURSE CODE | PROPOSED COURSE TITLE | UNITS | NOTES |
|----------|-------------|----------------------------|-------|-------|
| Core | ABM5001 | Leadership in Biomedicine | 2 | |
| Elective | SPH5206 | Urban Field Epidemiology** | 4 | IDM |

**The Capstone Project is a single 8-unit course that runs across Semesters 1 and 2. For students choosing to take on the Capstone Project, they are required to find a supervisor prior to their enrolment.*

***Students in the Infectious Diseases Management Specialisation may read only one of the three approved SPH courses, to count towards their compulsory specialisation requirements.*

Notes legend:

VI : Compulsory in Vaccinology and Immunotherapy

IDM : Compulsory in Infectious Diseases Management

DDD : Compulsory in Drug Discovery and Development

APPLY NOW

For more information about the programme,
please visit our webpage or contact us via email at [**mstabm@nus.edu.sg**](mailto:mstabm@nus.edu.sg)