REQUIREMENTS FOR COHORT AY2025/2026 ONWARDS	Units
COMMON CURRICULUM	**40**
General Education*	24
Cultures and Connections (basket of courses)	4
Communities and Engagement (basket of courses)	4
Critique and expression (ES2631 Critique and Communication of Thinking and Design)	4
Digital literacy (CS1010E Programming methodology)	4
Data literacy (GEA1000 Quantitative reasoning with data)	4
Singapore Studies (CDE2501 Liveable Cities)	4
CDE Common curriculum	16
EE2211 introduction to machine learning	4
EG1311 Design and make	4
PF1101A Project Management and Finance	4
DTK1234 Design thinking	4
MAJOR REQUIREMENTS	**80**
Engineering Core	20
MA1511 Engineering Calculus	2
CE2407A Uncertainty Analysis for Engineers	2
CE2407B Introduction to Numerical Methods for Engineers	2
MA1513 Linear Algebra with Differential Equations	2
EG2401A Engineering Professionalism	2
EG3611A Industrial Attachment**	10
BME Major Programme	60
BN1112 Introduction to biomedical design and manufacturing	4
BN2104 Medical Technology in Public and Global Health	4
BN2105 Medical Device Life Cycle Management	4
BN2112 Cell biology and analytics for engineers	4
BN2201 Quantitative Physiology for Bioengineers	4
BN2204 Fundamentals of Biomechanics	4
BN2301 Biochemistry and Biomaterials for Bioengineers	4
BN2404 Biomedical Circuits and Signal Processing	4
BN3101A Biomedical Engineering Design or BN3101B Clinical Immersion and HealthTech Innovation	4
BN3405 Biomedical Instrumentation	4
BN3406 Biomedical imaging and AI applications	4
BN4101 B. Eng dissertation (Integrated project) ***	8
BME Technical Electives (see list at the next page)	8
UNRESTRICTED ELECTIVES	**40**
TOTAL	160

* Some of specific courses indicated here might differ for some students (e.g., students in residential colleges)

** Please note that there are alternative options to EG3611A. These include:

- EG3612 Vacation Internship Programme (6 units) + CDE2605 undergraduate Research Opportunities (4 units)
- EG3612 Vacation Internship Programme (6 units) + CDE2605R undergraduate Research Experience (4 units)
- EG3612 Vacation Internship Programme (6 units) + CFG2101 NUS Vacation Internship Programme (4 units)
- Embarking in the NUS Overseas College Programme

*** Students with a second major in Innovation and Desing (iDP) may read iDP course(s) to clear the integrated project requirement instead of BN4101.

List of BME technical electives (all 4 units)
BN2001 Independent Study

BN3202 Musculo-Skeletal Biomechanics
BN3301 Introduction to Biomaterials
BN3402 Bio-Analytics for Engineers
BN3501 Equilibrium & Kinetic Bioprocesses
BN4102 Gerontechnology in Ageing
BN4103 Assistive Technology for Persons with Disability
BN4108 Biomedical engineering for global health
BN4109 Special Topics in Bioengineering
BN4202 Biofluids Dynamics
BN4203 Robotics in Rehabilitation
BN4206 Computational methods in Biomedical Engineering
BN4207 Microrobotics
BN4301 Principles of Tissue Engineering
BN4302 Organs in a Dish: Organoid Bioengineering
BN4303 Tissue Engineering for Designing Food
BN4304 Engineering Strategies for Gene and Cell Manufacturing
BN4402 Electrophysiology
BN4403 Cellular Bioengineering
BN4404 Biomicroelectromechanical Systems-BioMEMs
BN4406 Biophotonics and Bioimaging
BN4501 Engineering Biology
BN4601 Intelligent Medical Robotics
BN4701 Serious Games for Health

BME Recommended Schedule for students matriculated AY25/26 onward (A-level)

Year 1

Semester 1			Semester 2		
Code	Title	Units	Code	Title	Units
	GE/UE (Quantitative Reasoning with Data) or bridging course (UE)	4	CS1010E	Programming Methodology (GE)	4
DTK1234	Design Thinking	4	EG1311	Design and make	4
MA1513	Linear Algebra with Differential Equations	2	MA1511	Engineering Calculus	2
PF1101A	Fundamentals of Project Management and Finance	4	CE2407B	Introduction to Numerical Methods for Engineers	2
CE2407A	Uncertainty Analysis for Engineers	2		GE/UE or bridging course (UE)	4
BN1112	Introduction to biomedical design and manufacturing	4	BN2112	Molecular Cell Biology for Biomedical Engineers	4
	Total for semester	20		Total for semester	20

Year 2

Semester 3			Semester 4		
Code	Title	Units	Code	Title	Units
EE2211	Introduction to MachineLearning	4	ES2631	Critique and Communication of Thinking and Design (GE)	4
EG2401A	Engineering Professionalism	2	BN2204	Fundamentals of Biomechanics	4
BN2105	Medical Device Life Cycle Management	4	BN3406	Biomedical imaging and AI applications	4
BN2301	Biochemistry and Biomaterials for Bioengineers	4	BN3405	Biomedical Instrumentation	4
BN2104	Medical Technology in Public and Global Health	4		GE/UE	4
BN2404	Biomedical Circuits and Signal Processing	4			
	Total for semester	22		Total for semester	20

Year 3 (half cohort)

Semester 5			Semester 6		
Code	Title	Units	Code	Title	Units
CDE2501	Liveable Cities (GE)	4	EG3611A	Industrial attachment	10
BN3101A	Biomedical Engineering Design	4		GE/UE	4
BN2201	Quantitative Physiology for Bioengineers	4		GE/UE	4
	GE/UE	4			
	GE/UE	4			
	Total for semester	20		Total for semester	18

Year 3 (other half cohort)

Semester 5			Semester 6		
Code	Title	Units	Code	Title	Units
EG3611A	Industrial attachment	10	CDE2501	Liveable Cities (GE)	4
	GE/UE	4	BN3101A	Biomedical Engineering Design	4
	GE/UE	4	BN2201	Quantitative Physiology for Bioengineers	4
				GE/UE	4
				GE/UE	4
	Total for semester	18		Total for semester	20

Year 4

Semester 7			Semester 8		
Code	Title	Units	Code	Title	Units
BN4101	B.Eng Dissertation	4	BN4101	B.Eng Dissertation	4
	BME Technical elective	4		BME Technical elective	4
	GE/UE	4		GE/UE	4
	GE/UE	4		GE/UE	4
	GE/UE	4		GE/UE	4
	Total for semester	20		Total for semester	20
				Grand total	**160**

BME Recommended Schedule for students matriculated AY25/26 onward (Polytechnic)

Year 1

Code	Title	Units	Code	Title	Units
	Semester 1			**Semester 2**	
MA1301	Introductory mathematics (math bridging, UE)	4	CS1010E	Programming Methodology (GE)	4
PF1101A	Fundamentals of Project Management and Finance	4	MA1511	Engineering Calculus	2
CE2407A	Uncertainty Analysis for Engineers	2	CE2407B	Introduction to Numerical Methods for Engineers	2
BN1112	Introduction to biomedical design and manufacturing	4	BN2112	Molecular Cell Biology for Biomedical Engineers	4
GEA1000	Quantitative Reasoning with Data (GE)	4		GE/UE	4
	GE/UE	4		GE/UE	4
	Total for semester	22		Total for semester	20

Year 2

Code	Title	Units	Code	Title	Units
	Semester 3			**Semester 4**	
MA1513	Linear Algebra with Differential Equations	2	ES2631	Critique and Communication of Thinking and Design (GE)	4
EG2401A	Engineering Professionalism	2	BN2204	Fundamentals of Biomechanics	4
BN2105	Medical Device Life Cycle Management	4	BN3405	Biomedical Instrumentation	4
BN2301	Biochemistry and Biomaterials for Bioengineers	4	CDE2501	Liveable Cities (GE)	4
BN2104	Medical Technology in Public and Global Health	4		GE/UE	4
BN2404	Biomedical Circuits and Signal Processing	4			
	Total for semester	20		Total for semester	20

Year 3

Code	Title	Units	Code	Title	Units
	Semester 5			**Semester 6**	
BN4101	B.Eng Dissertation	4	BN4101	B.Eng Dissertation	4
BN3101A	Biomedical Engineering Design	4	BN3406	Biomedical imaging and AI applications	4
BN2201	Quantitative Physiology for Bioengineers	4		BME Technical elective	4
EE2211	Introdcution to machine learning	4		GE/UE	4
	BME Technical elective	4		GE/UE	4
	Total for semester	20		Total for semester	20
				Exemptions (APC) *	38
				Grand total	**160**

[* Applies to Polytechnic degrees in List 1](#)