

1. You are advised to read the instructions to courses registration posted in STARS. Please refer to STARS for the schedule of registration.
2. Students are only allowed to register for courses up to their **Normal Load** during their scheduled course registration day (during **both** their scheduled timeslot and between 5pm to 10pm on the same day). To register more than Normal Load, students would only be able to do so during the Add/Drop period. Please refer to the table below for the normal and maximum load requirement for your year of study.

Programme	Study Years	Normal Load	Maximum Load
PHY	All Years	20	20
PHME, PHDA, PHMP, PHEN, PHSN, PHQT, PHMA	All Years	22	22

3. If you wish to read a course that will exceed your maximum load, you can apply online through this link: <https://raspberry.spms.ntu.edu.sg/overload/apply/default.aspx>. Please note that approval is granted to a specific course that you wish to overload.
4. The following courses are to be read during Semester 1 AY 2023-2024 (subject to fulfilling pre-requisites).
5. Please refer to URL for the most updated ICC or GER Core requirements: <https://www.ntu.edu.sg/spms/admissions/undergrad/core-courses>

PHY Year 1 – U21 and after				
Course Code	Course Title	Course Type	Course AU	Remarks
PH1104	Mechanics	Core	3	
PH1105	Optics, Vibrations & Waves	Core	3	
MH1802	Calculus for the Sciences	Core	4	
PH1198	Physics Lab IA	Core	2	
PS0001	Introduction to Computational Thinking	Core	3	PHME, PHMP, PHQT only
CC0002	Navigating the Digital World	ICC Core	2	
CC0005	Healthy Living and Wellbeing	ICC Core	3	PHME, PHQT only

PHY Year 2 – U21 and after				
Course Code	Course Title	Course Type	Course AU	Remarks
PH1107	Relativity & Quantum Physics	Core	3	
MH2802	Linear Algebra for Scientists	Core	3	
PH2103	Thermal Physics	Core	4	
PH2198	Physics Lab IIA	Core	2	
PS0001	Introduction to Computational Thinking	Core	3	
ML0004	Career and Entrepreneurial Development for the Future World	ICC-Core	2	PHY, PHMP, PHDA, PHEN, PHSN only
CC0007	Science & Technology for Humanity	ICC-Core	3	PHME, PHMP, PHQT only

PHY Year 3 (APHY)				
Course Code	Course Title	Course Type	Course AU	Remarks
PH2102	Electromagnetism	Core	4	
PH2104	Analytical Mechanics	Core	4	Not required for PHME
PH3101	Quantum Mechanics II	Core	4	
PH3103	Technological Applications of Quantum Mechanics	Core	3	ICC-intakes only
PH3601	Fabrication of Micro- and Nanoelectronic Devices	BDE – 2 nd major	4	Compulsory for PHME only
PH3102	Condensed Matter Physics I	Core	4	Non-ICC intakes only

PHY Year 3 (PPHY)				
Course Code	Course Title	Course Type	Course AU	Remarks
PH2102	Electromagnetism	Core	4	
PH2104	Analytical Mechanics	Core	4	
PH3101	Quantum Mechanics II	Core	4	
PH3103	Technological Applications of Quantum Mechanics	Core	3	ICC intakes only
PH3102	Condensed Matter Physics I	Core	4	Non-ICC intakes only

GER-Core (non-ICC intakes only)				
Course Code	Course Title	Course Type	Course AU	Remarks
ET0001	Enterprise & Innovation	GER-Core	1	Index: 70165
ML0003	Kickstart Your Career Success	GER-Core	1	Index: 70360
GC0001	Sustainability: Seeing Through the Haze	GER-Core	1	Index: 70170
PS0001	Introduction to Computational Thinking	GER-Core	3	
HY0001	Ethics & Moral Reasoning	GER-Core	1	FINAL OFFER

The following **GER-core courses** are no longer offered. Replacement course (if applicable) is indicated next to the respective course. Please email SPMSUndgrad@ntu.edu.sg if you need to take the replacement course **after** registering for Core and/or Major-PE courses.

Course Code & Course Title	Replacement Course (if applicable)
HW0128 Scientific Communication I	CC0001 Inquiry and Communication in an Interdisciplinary Word
HW0228 Scientific Communication II	HW0218 Communication Across the Sciences
PS8001 Defence Science	-NA-
PS0003 Plan your Career Path	-NA-

PHY Major PE (APHY)			
Course Code	Course Title	Course Type	Course AU
PH3403	Cosmology	Major PE	3
PH3601	Fabrication of Micro- and Nanoelectronic Devices	Major PE	4
PH3602	Photonics	Major PE	4
PH4403	Surfaces and Interfaces	Major PE	4
PH4408	Nuclear Physics	Major PE	3
PH4411	Introduction to Experimental Particle Physics	Major PE	3
PH4607/CM4017	Biomedical Imaging and Sensing	Major PE	3
PH4421	Final Year Project (U19 & after)	Major PE	10
PH4413	Professional Internship (U15)	Major PE	10
PH4417	Professional Internship (U16 - U18)	Major PE	11
PH4420	Professional Internship (U19 & after)	Major PE	10

PHY Major PE (PPHY)			
Course Code	Course Title	Course Type	Course AU
PH3403	Cosmology	Major PE	3
PH4403	Surfaces and Interfaces	Major PE	4
PH4408	Nuclear Physics	Major PE	3
PH4411	Introduction to Experimental Particle Physics	Major PE	3
PH4421	Final Year Project (U19 & after)	Major PE	10
PH4413	Professional Internship (U15)	Major PE	10
PH4417	Professional Internship (U16 - U18)	Major PE	11
PH4420	Professional Internship (U19 & after)	Major PE	10

6. You are allowed to read higher level courses provided that you have met the pre-requisites and there are vacancies available. Pre-requisites may also be met through exemptions.

7. The locations of the Mathematics Labs are as follow.

Mathematics Lab	Location
COMP LAB 1	SPMS-MAS-03-02
COMP LAB 2	SPMS-MAS-03-03
COMP LAB 3	SPMS-MAS-03-04

8. Students with Admission Year 2023 who are intending to take up higher level courses whereby the pre-requisites are fulfilled through exemptions are to write in to SPMSUndgrad@ntu.edu.sg. Exemptions will only be updated after add/drop period and will only be reflected at the end of the semester, together with semester results release.

9. Students who are interested may take graduate courses as prescribed electives or unrestricted electives where applicable. **A minimum CGPA of 4.00 is required for the application.**

- Students from **non-ICC intakes** will be required to fulfill at least 10 AU of level 4 [excluding PH4405/PH4415 Final Year project (10 AU/11 AU) or PH4407/PH4413/PH4417/PH4421 Professional Internship (10 AU/11AU)] and above courses as part of their graduation requirement under Major PE.
- Students from **ICC intakes** will be required to take at least 3AU of PH4xx courses (excluding PH4421 Final Year Project/PH4420 Professional Internship).

Graduate course information may be found from <https://www.ntu.edu.sg/spms/about-us/physics/grad/course-info>. Students may write in to SPMSUndgrad@ntu.edu.sg for more details on the application process. These are the graduate courses offered in AY2023 Semester 1:

Course Code	Course Title	Pre-requisite	Course Type Offered
PH7002	Concepts in Statistical Mechanics	PH3201	Major-PE or UE/BDE
PH7006	Classical Electrodynamics	PH2102	Major-PE or UE/BDE
PH7014	Optical Spectroscopic Techniques	PH3602	Major-PE or UE/BDE
PH7027	Plasma Physics and Fusion Energy	PH2102, PH3201	UE/BDE

10. Students who have taken courses as pre-requisites during exchange programme in the current Semester, please submit your waiver request via the Online Waiver Application using this link: <https://walnut.spms.ntu.edu.sg/waiver/student/default.aspx>. Please upload a copy of the course matching details and a copy of your exchange transcript (if any) in pdf format in your application. This is subjected to approval from approving officer.
11. Enquiries on curriculum may be directed to :
 - Assoc Prof Cheong Siew Ann (cheongsa@ntu.edu.sg)
 - Ms. Tan Soo Pei, Juliet (JulietTanSP@ntu.edu.sg)
12. Enquiries on courses registration may be directed to SPMSundgrad@ntu.edu.sg. Your matriculation number must always be included in your e-mail. Please refrain from sending multiple similar e-mails as this will not expedite the response but rather it will cause undue delay. All enquiries will be attended to and will be replied as soon as possible, depending on the nature of the request. Appeals for GER-PE and UE vacancies are to be submitted through the online appeal system and will not be responded to if submitted otherwise.
13. Enquiries on network performance, Studentlink password or STARS PIN may be directed to NSS Service Desk using the IT Service Desk Form below:
 - [ServiceNow](#)
 - [Password Services](#) (To change or reset Network Account password)
 - Service Desk Form: <https://www.ntu.edu.sg/life-at-ntu/internet-account-and-policy/service-desk-form>