

VIETNAM ACADEMY  
OF SCIENCE AND TECHNOLOGY  
UNIVERSITY OF SCIENCE  
AND TECHNOLOGY OF HANOI

No. 982/QĐ-ĐHKHCN

SOCIALIST REPUBLIC OF VIETNAM  
Independence - Freedom - Happiness

Hanoi, September 28<sup>th</sup>, 2022

**DECISION**

**On approving the teaching plan of master programs  
in academic year 2022-2023**

**RECTOR**

**OF UNIVERSITY OF SCIENCE AND TECHNOLOGY OF HANOI**

*Pursuant to Decision No. 2067/QĐ-TTg dated December 9<sup>th</sup>, 2009 of the Prime Minister on the establishment of University of Science and Technology of Hanoi (USTH);*

*Pursuant to Decision No. 2557/QĐ-TTg dated December 30<sup>th</sup>, 2016 of the Prime Minister on Regulations on organization and operation of USTH;*

*Pursuant to Decision No. 392/QĐ-ĐHKHCN dated August 14<sup>th</sup>, 2018 of the Rector of USTH on issuing the Master Academic Policies;*

*At the proposal of Director of Department of Academic Affairs.*

**DECIDES:**

**Article 1.** To approve the teaching plan of master programs of University of Science and Technology of Hanoi in academic year 2022-2023 as detailed in the Annexes promulgated with this Decision.

**Article 2.** Director of Administration, Director of Department of Academic Affairs, Directors of academic departments, Head of Organization – Personnel Department, Head of Accounting and Finance Department and involved individuals shall be in charge of implementing this Decision./.

**Recipients:**

- As Article 2;
- Rector;
- Vice Rectors;
- Archive: Admin, DAA.MH.

**PRINCIPAL RECTOR**

*(Signed and sealed)*

**Prof. Jean-Marc Lavest**

**ANNEX 1: TEACHING PLAN OF ADVANCED MATERIALS SCIENCE AND NANO TECHNOLOGY MASTER PROGRAM 2022-2023**  
*(Promulgated with Decision No. 982/QĐ-ĐHKHCN dated September 28<sup>th</sup>, 2022 on approving the teaching plan of master programs in academic year 2022-2023)*

**1.1. TEACHING PLAN OF M1**

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<b>Semester 1</b>												
1	C1	English Master 1	2.5	160	160	0	0	M	Nguyễn Thị Ngọc Thảo, Nguyễn Hồng Nga, Nguyễn Ngọc Anh, Đỗ Thùy Linh, Bùi Phương Hà, Invited lecturers	F+I	10/2022	10/2022
2	B107	Applied numerical tools (python)	2	20	20			M	Michele Amato, Invited lecturer	I	10/2022	2/2023
3	B122	Bibliographic and international project	3	20	20			M	Jean-Christophe Lacroix, Benoit Piro	I	10/2022	2/2023
4	B102	Thermodynamics	3	20	20			M	Florent Calvayrac	I	10/2022	2/2023
5	B104	Advanced Electrochemistry for sustainable development	3	20	20			M	Nguyễn Văn Quỳnh	F	10/2022	2/2023
6	P204	Physics of semi-conductors and electronic devices	3	20	20			M	Jérôme St Martin, Stéphane. Vignoli, Julien Laverdant	I	10/2022	2/2023
7	B106	Organic & Coordination chemistry for sustainable development	3	22	20			M	Bernd Schollhorn	I	10/2022	2/2023
8	B108	Physico chemistry of interfaces	3	20	20			M	Vũ Thị Thu	F	10/2022	2/2023
9	C203	Chemical Functionalisation of Surfaces - Electronic Conducting Polymers	2	20	20			M	Nguyễn Văn Quyền	F	10/2022	2/2023

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No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
10	B112	Magnetic properties of materials	3	20	20			M	Philippe Lecoœur, Nguyễn Thị Ngọc	F+I	10/2022	2/2023
<b>Semester 2</b>												
11	FRM1	French M1	1	60	60	0	0	M	Trần Thị Phương Thảo, Nguyễn Tuấn Anh, Trương Thị Khánh Hòa, Phạm Thị Huyền	F	02/2023	4/2023
12	MMS1.001	Science and Technology Management	1.5	20	19		1	M	Phạm Thị Mỹ Hạnh	I	02/2023	6/2023
13	B123	Introduction to Molecular Modeling	3	20	20			M	François Maurel / Nguyen Thi Van Oanh	I	3/2023	6/2023
14	B124	Optical properties of materials	3	20	20			M	Corinne Chanéac	I	3/2023	6/2023
15	C206	Chemistry of nanomaterials for sustainable development	3	20	20			M	Fayna Mammeri	I	3/2023	6/2023
16	B118	Polymer materials for sustainable development	3	30	20		10	M	Benoit Piro, Nguyễn Văn Quyền	F+I	3/2023	6/2023
17	B119	Spectroscopy techniques	3	20	20			M	Philippe Daniel, Invited lecturer	I	3/2023	6/2023
18	B120	Microscopy technics	3	20	20			M	Nordin Felidj	I	3/2023	6/2023
19	B111	Experimental Unit: Electrodeposition Chemical preparation VD Deposition TP AFM/STM SEM	4	40		40		M	Nguyễn Lương Lâm, Nguyễn Văn Quỳnh, Nguyễn Thị Ngọc, Nguyễn Thị Thanh Ngân	F	3/2023	6/2023
20	B110	Internship (3 months)	8					M				

1.2. TEACHING PLAN OF M2

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<b>Semester 1</b>												
1	FRM2	French M2	2	40	40			M	Trần Thị Phương Thảo, Nguyễn Tuấn Anh, Trương Thị Khánh Hòa, Phạm Thị Huyền	F	11/2022	01/2023
2	MMS2.001	Science and Technology Innovation Management	1.5	20	20			M	Lê Thị Thu Hiền	I	9/2022	02/2023
3	MMS2.002	Research method in Science and Technology Studies	1.5	20	12		8	M	Nguyễn Trinh Hoàng Anh	I	9/2022	02/2023
4	C201	Nanostructured Polymers	3	24	20		4	M	Laurent Fontaine, Nguyễn Đức Anh	F+I	10/2022	02/2023
5	P202	Nanophotonics	3	24	20		4	M	Lại Ngọc Điệp, Nguyễn Thị Thanh Ngân	F+I	10/2022	02/2023
6	B202	Material for PhotoVoltaic	2	20	20			M	Fabrice Goudard, Lê Thị Hường	F+I	10/2022	02/2023
7	B207	Materials for batteries and supercondensators	2	20	20			M	Pierre Audebert	I	10/2022	02/2023
8	B204	Organic electronics	3	20	20			M	Jean Manuel Raimundo	I	10/2022	02/2023
9	B205	Molecular Modeling of organic materials	2	20	20			M	François Maurel	I	10/2022	02/2023
10	B203	Biosensors	3	20	20			M	Benoit Piro/Bruno le Piouffe	I	10/2022	02/2023
11	C202	Molecular electronics and nanoelectrochemistry	2	20	20			M	Jean-Christophe Lacroix	I	10/2022	02/2023

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
12	P301	Molecular Magnetism	3	20	20			M	Tallal Mallah	I	10/2022	02/2023
13	B207	Vietnamese academic and industrial landscape	2	20	20			O	Invited lecturer	I	10/2022	02/2023
14	B206	Technological work in a clean room	2	20	0	20		O	Nguyễn Trần Thuật	I	10/2022	02/2023
15	B201	Mesosopic materials surfaces and interfaces	2	20	20			O	Alain Gibaud	I	10/2022	02/2023
<b>Semester 2</b>												
16	B210	Internship	30					M			3/2023	8/2023

**ANNEX 2: TEACHING PLAN OF INFORMATION AND COMMUNICATION TECHNOLOGY MASTER PROGRAM 2022-2023**  
 (Promulgated with Decision No. 982/QĐ-ĐHKHCN dated September 28<sup>th</sup>, 2022 on approving the teaching plan of master programs  
 in academic year 2022-2023)

**2.1. TEACHING PLAN OF M1**

No.	Module code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<b>Semester 1</b>												
1	C1	English Master 1	2.5	160	160			M	Nguyễn Thị Ngọc Thảo, Nguyễn Hồng Nga, Nguyễn Ngọc Anh, Đỗ Thùy Linh, Bùi Phương Hà, Invited lecturers	F+I	10/2022	10/2022
2	BC4.01	Mathematics Tool for Data Science	5	50	40		10	M	Trần Hoàng Tùng, Nguyễn Mai Chung	F	10/2022	12/2022
3	BC4.02	Information Systems for Data Science	5	50	40	10		M	Nguyễn Thị Phương, Nguyễn Hoàng Hà	F	10/2022	12/2022
4	BC1.01	Programming techniques	5	50	30	20		M	Emmanuelle Darles, Lilian Aveneau	I	10/2022	12/2022
5	BC2.01	Data acquisition	5	50	30	20		M	Emmanuel Le Clézio, Gilles Despaux	I	11/2022	02/2023
6	BC1.02	Basic modelling techniques	5	50	40		10	M	Giàng Anh Tuấn	F	11/2022	02/2023
<b>Semester 2</b>												
7	FRM1	French M1	1	60	60			M	Trần Thị Phương Thảo, Nguyễn Tuấn Anh, Trương Thị Khánh Hòa, Phạm Thị Huyền	F	02/2023	4/2023
8	MMS1.001	Science and Technology Management	1.5	20	19		1	M	Phạm Thị Mỹ Hạnh	I	02/2023	6/2023

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No.	Module code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
9	BC3.01	System Architectures	5	50	40		10	M	Lê Hữu Tôn, Daniel Hagimont	F+I	3/2023	6/2023
10	BC1.03	Advanced modelling techniques	5	50	30		20	M	Laure Petrucci, Kais Klai	I	3/2023	6/2023
11	BC2.03	IoT interfaces from hardware to software and Wireless communication	5	50	30	20		M	Serge Stinckwich, Bernard Pottier	I	3/2023	6/2023
12	BC4.03	Data mining	5	50	40	10		M	Emmanuel Viennet, Trần Giang Sơn	F+I	3/2023	6/2023
13	BC3.02	Security and Ethics for Data	2.5	25	20		5	M	Invited lecturer	I	3/2023	6/2023
14	BC2.02	From sensor to user	2.5	25	20		5	M	Invited lecturer	I	3/2023	6/2023
15	M12.05-M1	M1 Internship (12 weeks)	5					M			6/2023	9/2023

**2.2. TEACHING PLAN OF M2**

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<b>Semester 1</b>												
1	FRM2	French M2	2	40	40			M	Trần Thị Phương Thảo, Nguyễn Tuấn Anh, Trương Thị Khánh Hòa, Phạm Thị Huyền	F	11/2022	01/2023
2	MMS2.001	Science and Technology Innovation Management	1.5	20	20			M	Lê Thị Thu Hiền	I	9/2022	02/2023
3	MMS2.002	Research method in Science and Technology Studies	1.5	20	12		8	M	Nguyễn Trịnh Hoàng Anh	I	9/2022	02/2023
4	BC1.04	Data mining	5	50	40	10		M	Axel Carlier, Trần Giang Sơn	F+I	10/2022	02/2023
5	BC3.04	Cloud and big data	5	50	30	20		M	Boris Teabe, Daniel Hagimont	I	10/2022	02/2023
6	BC2.04	Data visualization	5	50	30	20			Nicolas Sidère, Karel Bertet	I	10/2022	02/2023
7	BC3.04	Advanced programming for HPC	5	50	40	10		M	Lilian Aveneau, Trần Giang Sơn	F+I	10/2022	02/2023
8	BC4.04	Machine Learning and Deep Learning	5	50	40	10		M	Pascal Bourdon, Muriel Visani	I	10/2022	02/2023
<b>Semester 2</b>												
9	MI4.1	M2 Internship (6 months)	30					M			3/2023	9/2023



**ANNEX 3: TEACHING PLAN OF MEDICAL BIOTECHNOLOGY - PLANT BIOTECHNOLOGY - PHARMACOLOGY MASTER PROGRAM**

*(Promulgated with Decision No. 982/QĐ-ĐHKHCN dated September 28<sup>th</sup>, 2022 on approving the teaching plan of master programs in academic year 2022-2023)*

**3.1. TEACHING PLAN OF M1**

No.	Module Code	Modules	ECTS	Total syllabus hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<b>Semester 1</b>												
1	C1	English Master 1	2.5	160	160			M	Nguyễn Thị Ngọc Thảo, Nguyễn Hồng Nga, Nguyễn Ngọc Anh, Đỗ Thùy Linh, Bùi Phương Hà, Invited lecturers	F+I	10/2022	10/2022
2	BP10	Molecular Biology	5	50	50			M	Eric Lacombe	F	9/2022	02/2023
3	BP11	Biochemistry and enzymology	5	50	40	10		M	Thanh Ha Duong, Eric Lacombe	F+I	9/2022	02/2023
4	BP12	Intruduction to pharmacology	4	66	48		18	M	Roger Besançon, Raphaël Terreux, Nguyễn Thị Kiều Oanh, Nguyễn Phương Nga, Nguyễn Thị Vân Anh	F+I	9/2022	02/2023
5	BP13	Intruduction to biotechnology	4	50	30	16	4	M	Eric Boncompagni, Trần Tuấn Anh, Lê Thanh Hương	F+I	9/2022	02/2023
6	BP14	Bioinformatic	4	50	50			M	Florent Barbault, Trần Thị Thanh Tâm	F+I	9/2022	02/2023
7	BP15	Statistics and biological experimentation	4	44	40		4	M	Mai Thị Phương Nga, Nguyễn Thị Vân Anh	F	9/2022	02/2023
8	BP16	Scientific communication, valorization, Project management	4	44	44			M	Eric Gontier, Lê Thanh Hòa	I	9/2022	02/2023

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No.	Module Code	Modules	ECTS	Total syllabus hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<b>Semester 2</b>												
9	FRM1	French M1	1	60	60			M	Trần Thị Phương Thảo, Nguyễn Tuấn Anh, Trương Thị Khánh Hòa, Phạm Thị Huyền	F	02/2023	4/2023
10	MMS1.001	Science and Technology Management	1.5	20	19		1	M	Phạm Thị Mỹ Hạnh	I	02/2023	6/2023
11	BP20	Medicinal chemistry	5	68	50		18	M	Roger Besançon, Marie-Geneviève Dijoux, Nguyễn Thị Vân Anh, Lê Hồng Luyến	F+I	02/2023	6/2023
12	BP21	Pharmaceutics and biopharmacy	5	50	28	22		M	Nguyễn Hồng Vân, Nguyễn Thị Kiều Oanh	F+I	02/2023	6/2023
13	BP22	Concepts in biochromatography	5	50	24	26		M	Lê Thị Thu Hằng	F	02/2023	6/2023
14	BP23	General immunology	5	53	37	16		M	Trần Thị Thu Phương	F	02/2023	6/2023
15	BP24	Biomedical Biotechnology	5	53	37	16		M	Pacale Cohen, Nguyễn Quang Huy, Lê Thị Thu Hằng	F+I	02/2023	6/2023
16	BP25	General oncology	5	41	41			M	Nguyễn Phương Nga, Nguyễn Thị Trang Huyền, Pascale Cohen, Roger Besançon	F+I	02/2023	6/2023
17	BP26	Plant Genetic and development	5	50	45		5	M	Eric Lacombe, Lê Thị Vân Anh	F+I	02/2023	6/2023
18	BP27	Plant Micro-organism interactions	5	50	35		15	M	Pierre Czernic, Nguyễn Văn Phương	F+I	02/2023	6/2023
19	BP28	Plant metabolic engineering	5	45	19	16	10	M	Michelle Boitel, Nguyễn Thị Kiều Oanh, Mai Thị Phương Nga, Tô Thị Mai Hương	F+I	02/2023	6/2023
20	BP30	M1 internship	10					M			02/2023	6/2023

### 3.2. TEACHING PLAN OF M2

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
Semester 1												
1	FRM2	French M2	2	40	40			M	Trần Thị Phương Thảo, Nguyễn Tuấn Anh, Trương Thị Khánh Hòa, Phạm Thị Huyền	F	11/2022	01/2023
2	MMS2.001	Science and Technology Innovation Management	1.5	20	20			M	Lê Thị Thu Hiền	I	9/2022	02/2023
3	MMS2.002	Research method in Science and Technology Studies	1.5	20	12		8	M	Nguyễn Trinh Hoàng Anh	I	9/2022	02/2023
4	BP300	From natural product to drugs and medicines	3	42	32		10	M	Trần Tuấn Anh, Nguyễn Thị Kiều Oanh	F	9/2022	02/2023
5	BP301	Nanobiotech, biosensors and nano delivery	4	56	38	18		M	Benoit Piro, Nguyễn Hồng Vân	F+I	9/2022	02/2023
6	BP302	Pharmaceutics and pharmacokinetics	4	48	40		8	M	Nguyễn Hồng Vân, Nguyễn Thị Vân Anh	F+I	9/2022	02/2023
7	BP303	Molecular engineering	4	40	28	12		M	Lê Thị Thu Hằng, Raphaël Terreux	F+I	9/2022	02/2023
8	BP304	Experimental Pharmacology	3	40	20	10	10	B	Nguyễn Thị Vân Anh, Nguyễn Phương Nga	F	9/2022	02/2023
9	BP305	Structural analysis in biology	3	27	20		7	M	Invited lecturer	I	9/2022	02/2023
10	BP306	Immunoinformatics, bioinformatics and antibodies	4	43	35	3	5	M	Sofia Kossida, Trần Thị Thanh Tâm	F+I	9/2022	02/2023
11	BP307	From genomic to system biology	4	40	40			M	Nguyễn Cẩm Linh, Invited lecturer	F+I	9/2022	02/2023
12	BP308	Expression system and bioreactions	4	48	33	15		M	Đông Văn Quyền, Phí Quyết Tiến	F+I	9/2022	02/2023
13	BP309	Genetic, cellular and molecular mechanisms of human diseases	4	40	36	4		M	Nguyễn Thy Ngọc	F	9/2022	02/2023

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
14	BP310	Stem cell and nuclear transfert	3	30	30	10		B	Nguyễn Trung Nam, Nguyễn Phương Nga	F+I	9/2022	02/2023
15	BP311	Molecular biology of emerging viruses and other pathogens	3	46	38	8		M	Anne Laure Banuls, Nguyễn Quang Huy, Trần Thị Thu Phương	F+I	9/2022	02/2023
16	BP312	Plant functional and comparative genomics	4	40	27	9	4	M	François Sabot	I	9/2022	02/2023
17	BP313	Micropropagation, transformation, regeneration of tropical plants	4	40	36		4	M	Mai Thị Phương Nga	F	9/2022	02/2023
18	BP314	Engineering stress resistance in tropical crops	4	40	38		2	M	Laetitia Zurletto, Tô Thị Mai Hương	F+I	9/2022	02/2023
19	BP315	Genetic and molecular basis of plant productivity	4	45	25		20	M	Stéphane Jouannic, Lê Thị Vân Anh	F+I	9/2022	02/2023
20	BP316	Molecular markers and selection	5	41	25		16	M	Daniel Prat, Nguyễn Văn Phương	F+I	9/2022	02/2023
21	BP317	Phytopathologie	4	45	42		3	M	Nguyễn Văn Phương	F	9/2022	02/2023
<b>Semester 2</b>												
22	BP40	M2 Internship	30					M			3/2023	8/2023

**ANNEX 4: TEACHING PLAN OF SPACE: EARTH OBSERVATION - ASTROPHYSICS - SATELLITE TECHNOLOGY MASTER PROGRAM**

2022-2023  
(Promulgated with Decision No. 382/QĐ-ĐHKHCN dated September 28<sup>th</sup>, 2022 on approving the teaching plan of master programs in academic year 2022-2023)

**4.1. TEACHING PLAN OF M1**

No.	Subject Code	Subject	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<b>Semester 1</b>												
1	C1	English Master 1	2.5	160	160			M	Nguyễn Thị Ngọc Thảo, Nguyễn Hồng Nga, Nguyễn Ngọc Anh, Đỗ Thùy Linh, Bùi Phương Hà, Invited lecturers	F+I	10/2022	10/2022
2	C-12	Introduction to Astrophysics & Earth Observation	3	30	20	10		M	Phạm Thị Tuyết Nhung, Tống Sĩ Sơn	F+I	11/2022	02/2023
3	C-13	Introduction to Satellite Technologies	2	20	20			M	Lê Xuân Huy	I	11/2022	02/2023
4	C-14	Optical, Infrared and Microwave Imaging Systems	4	40	35		5	M	Cyrille Rosset, Damien Gratadour, Thierry Koleck	I	11/2022	02/2023
5	C-15	Signal Processing	3	30	20		10	M	Damien Gratadour, Guillaume Patanchon	I	11/2022	02/2023
6	C-16	Algorithmics and Programmation	2	20	10		10	M	Cyrille Rosset	I	11/2022	02/2023
7	C-17	Fundamental in Physics I	3	30	28		2	M	Cyrille Rosset, Guillaume Patanchon	I	11/2022	02/2023
8	C-18	Celestial Mechanics	2	20	20			M	Hubert Halloin	I	11/2022	02/2023
9	S-11	Fundamental in Physics II	3	30	30			O	Guillaume Patanchon, Eric Nuss	I	11/2022	02/2023
10	S-12	Earth and Planets	3	30	30			M	Sonia Fornasier, Ngô Đức Thành	F+I	11/2022	02/2023

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No.	Subject Code	Subject	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
11	T-12	Telecoms and Antennas	3	30	15	15		O	Jeanne Treuttel, Phạm Ngọc Diệp	I	11/2022	02/2023
<b>Semester 2</b>												
12	FRM1	French M1	1	60	60			M	Trần Thị Phương Thảo, Nguyễn Tuấn Anh, Trương Thị Khánh Hòa, Phạm Thị Huyền	F	02/2023	4/2023
13	MMS1.001	Science and Technology Management	1.5	20	19		1	M	Phạm Thị Mỹ Hạnh	I	02/2023	6/2023
14	C-21	Detectors and space instrumentation	2	20	10		10	M	Eric Nuss	I	3/2023	6/2023
15	C-22	Earth Observation: Methods and Applications I	3	35	15		20	M	Catherine Prigent, Filipe Aires	I	3/2023	6/2023
16	C-23	Numerical Methods	3	36	18	9	9	M	Stéphane Jacquemound	I	3/2023	6/2023
17	C-24	Tool Suite for Satellite Design	2	20	10	10		M	Joel Michaud, Jean-Luc Legal	I	3/2023	6/2023
18	C-25	Spacecraft architecture	3	30	20	10		M	Laurent Boissnard, Rodolphe Clédassou	I	3/2023	6/2023
19	C-26	Internship	5					M		I	3/2023	6/2023
20	S-21	Image Processing basics	2	20	10		10	O	Lê Hữu Tôn	F	3/2023	6/2023
21	S-22	Fundamentals in Physics III - Molecular Physics	3	30	20		10	O	Isabelle Kleiner, Hà Trần	I	3/2023	6/2023
22	S-23	Astrophysics	3	30	30			O	Sylvain Chaty, Olivia Venot	I	3/2023	6/2023

No.	Subject Code	Subject	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
23	S-24	Image Processing for remote sensing	4	40	40			O	Nicolas Delbart, Hồ Tổng Minh Định, Phạm Đức Bình	F+I	3/2023	6/2023
24	T-21	Ground segment	2	20	10		10	O	Anne-Therese Nguyen, Đỗ Xuân Phong	I	3/2023	6/2023
25	T-22	Attitude and orbit control	3	20	10		10	O	Trần Anh Tú	I	3/2023	6/2023
26	T-23	Global navigation satellite systems	3	30	20	10		O	Denis Puy	I	3/2023	6/2023
27	T-24	Electronic Systems	4	40	20	20		O	Damien Prêlé	I	3/2023	6/2023

#### 4.2. TEACHING PLAN OF M2

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<b>Semester 1</b>												
1	FRM2	French M2	2	40	40			M	Trần Thị Phương Thảo, Nguyễn Tuấn Anh, Trương Thị Khánh Hòa, Phạm Thị Huyền	F	11/2022	01/2023
2	MMS2.001	Science and Technology Innovation Management	1.5	20	20			M	Lê Thị Thu Hiền	I	9/2022	02/2023
3	MMS2.002	Research method in Science and Technology Studies	1.5	20	12		8	M	Nguyễn Trịnh Hoàng Anh	I	9/2022	02/2023
4	C-32	Observational techniques	3	30	25		5	M	Cedric Leyrat, Alain Doressoudiram	I	10/2022	02/2023
5	C-33	Methods for Astrophysics	2	20	10	10		M	Phạm Tuấn Anh	I	10/2022	02/2023
6	C-34	Space project - Observation	3	40	20		20	M	Benoit Mosser	I	10/2022	02/2023
7	C-25	Spacecraft architecture	3	30	20	10		M	Laurent Boissard, Rodolphe Cledassou	I	10/2022	02/2023
8	C-36	GIS: Geographical Information System	2	25	15	10		M	Jean-Paul Derooin	I	10/2022	02/2023
9	S-31	Remote Sensing of Continental Surface	3	30	30			O	Nicolas Delbart, Hồ Tổng Minh Định, Phạm Đức Bình	F+I	10/2022	02/2023
10	S-32	Remote Sensing of the Atmosphere	3	30	19		11	O	Juan Cuesta, Ngô Đức Thành	F+I	10/2022	02/2023
11	S-33	Remote sensing of the Ocean and Coastal Zones	3	24	18		6	O	Hubert Loisel	I	10/2022	02/2023
12	S-34	Advanced Astrophysics and Planets	3	40	30	10		O	Daniel Rouan, Alain Doressoudiram, Olivia Venot	I	10/2022	02/2023



No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
13	T-31	Space embedded electronics	3	30	20	10		O	Cedric Viou	I	10/2022	02/2023
14	T-32	Space environment	3	15	15			O	Robert Ecoffet, François Ginisty, Delphine Faye, Denis Payan, Stéphanie	I	10/2022	02/2023
15	T-33	Engineering for earth observation Space Systems	3	20	20			O	Linda Tomasini	I	10/2022	02/2023
16	T-23	Global Navigation Satellite Systems	3	30	20		10	O	Denis Puy	I	10/2022	02/2023
<b>Semester 2</b>												
17	C-41	Internship II	30					M			3/2023	8/2023

**ANNEX 5: TEACHING PLAN OF APPLIED ENVIRONMENTAL SCIENCES MASTER PROGRAM 2022-2023**  
*(Promulgated with Decision No. 382/QĐ-ĐHKHCN dated September 28<sup>th</sup>, 2022 on approving the teaching plan of master programs in academic year 2022-2023)*

**5.1. TEACHING PLAN OF M1**

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<b>Semester 1</b>												
1	C1	English Master 1	2.5	160	160	0	0	M	Nguyễn Thị Ngọc Thảo, Nguyễn Hồng Nga, Nguyễn Ngọc Anh, Đỗ Thùy Linh, Bùi Phương Hà, Invited lecturers	F+I	10/2022	10/2022
2	ES1_02	Statistics, Programming 1	2.5	25	25			M	Phạm Lê Anh	F	9/2022	02/2023
3	ES1_03	Environmental regulations	2.5	25	15		10	M	Đào Thành Dương	F	9/2022	02/2023
4	ES1_04	Environmental microbiology	2.5	25	22.5	2.5		M	Christine Dupuy, Nguyễn Thanh Hiền	F+I	9/2022	02/2023
5	ES1_05	Environmental chemistry	5	50	30	20		M	Emmanuel Guillon, Bùi Văn Hối	F+I	11/2022	02/2023
6	ES1_06	Atmosphere, Climate	2.5	25	15	10		M	Nguyễn Xuân Thành	F	11/2022	02/2023
7	ES1_07	Functioning Ecology	2.5	25	20		5	M	Yves Caubet, Nguyễn Thanh Hiền	F+I	9/2022	02/2023
8	ES1_08	Fluid mechanics	2.5	25	19	6		M	Leandro Duarte, Trịnh Bích Ngọc, Phạm Lê Anh	F+I	9/2022	02/2023
9	ES1_09	Free surface flows	2.5	25	15		10	M	Guilhem Dellinger, Phạm Lê Anh	F+I	9/2022	02/2023
<b>Oceanography and Hydrology</b>												
10	ES1_10	Advanced programming	2.5	25	10	15		M	Alexei Sentichev	F+I	9/2022	02/2023

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<i>Sustainable Water and Ecosystem Protection</i>												
11	ES1_11	Human health	2.5	25	25			M	Ascel Samba-Louaka, Mai Huong	F+I	9/2022	02/2023
<b>Semester 2</b>												
12	FRM1	French M1	1	60	60	0	0	M	Trần Thị Phương Thảo, Nguyễn Tuấn Anh, Trương Thị Khánh Hòa, Phạm Thị Huyền	F	02/2023	4/2023
13	MMS1.001	Science and Technology Management	1.5	20	19		1	M	Phạm Thị Mỹ Hạnh	I	02/2023	6/2023
14	ES2_01	Field course, Applied project	5	50	10	40		M	Frederic Guerin, Dominique Serca, Nguyễn Thanh Hiền, Vũ Cẩm Tú	F+I	02/2023	7/2023
15	ES2_02	Remote Sensing of Environment	2.5	35	15	20		M	Catherine Prigent, Filipe Aires	I	02/2023	7/2023
16	ES2_03	Statistics, Programming 2	2.5	25	5	10	10	M	Alexei Sentechev, Phạm Lê Anh	F+I	02/2023	7/2023
17	ES2_04	Hydrology and Hydrogeology	5	50	36	4	10	M	Nguyễn Quốc Sơn	F	02/2023	7/2023
18	ES2_05	Geochemistry	2.5	25	15		10	M	Marc Benedetti	I	02/2023	7/2023
<i>Oceanography and Hydrology</i>												
19	ES2_08	Geophysical fluid dynamics	2.5	25	15	10		M	Hubert Loisel	I	02/2023	7/2023
20	ES2_09	Oceanographic modelling	2.5	25	15	10		M	Trinh Bích Ngọc	F	02/2023	7/2023
21	ES2_12	Physical oceanography	5	50	30	20		M	Marine Herrmann	I	02/2023	7/2023
22	ES2_13	Air quality	2.5	25	15	10		M	Xavier Mari, Jean-Luc Jaffrezo, Pamela Dominutti, Gaëlle Uzu	I	02/2023	7/2023

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<i>Sustainable Water and Ecosystem Protection</i>												
23	ES2_06	Ecosystem services	2.5	30	25	5		M	Freddie-Jeanne Richard, Nguyễn Thanh Hiền, Yves Caubet	F+I	02/2023	7/2023
24	ES2_07	Biodiversity and Conservation	2.5	30	15		15	M	Élodie Réveillac, Nguyễn Thanh Hiền	F+I	02/2023	7/2023
25	ES2_10	Urban water management	5	50	30		20	M	Julien Laurent, Léo Guiot De La Rochère	I	02/2023	7/2023
26	ES2_11	Aquatic living resources	2.5	25	15		10	M	Frida Lasram, Mai Hrong	F+I	02/2023	7/2023

5.2. TEACHING PLAN OF M2

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
<b>Semester 1</b>												
1	FRM2	French M2	2	40	40			M	Trần Thị Phương Thảo, Nguyễn Tuấn Anh, Trương Thị Khánh Hòa, Phạm Thị Huyền	F	11/2022	01/2023
2	MMS2.001	Science and Technology Innovation Management	1.5	20	20			M	Lê Thị Thu Hiền	I	9/2022	02/2023
3	MMS2.002	Research method in Science and Technology Studies	1.5	20	12	8		M	Nguyễn Trinh Hoàng Anh	I	9/2022	02/2023
4	W42	Samplers and Sensors	2.5	25	25			M	Philippe Behra	I	9/2022	02/2023
5	W51	Hydrology modelling - Floods	5	50	20	20	10	M	Nguyễn Quốc Sơn	F	9/2022	02/2023
6	W52	GIS	2.5	25	16	9		M	Jean Paul Deroin	I	9/2022	02/2023
7	W56	Reactive Transport in natural waters	2.5	25	25			M	Philippe Behra	I	9/2022	02/2023
<b>Oceanography and Hydrology</b>												
8	W61	Sediment transport, Estuaries	2.5	25	16	9		M	Sylvain Ouilton, Vũ Duy Vinh	I	9/2022	02/2023
9	W62	Coastal oceanography and Nearshore processes	5	45	37	8		M	Xavier Bertin, Alexei Sentshev	I	9/2022	02/2023
10	W63	Biogeochemistry, Marine Optics	5	51	27	24		M	Marine Herrmann, Trinh Bích Ngọc, Hubert Loisel	F+I	9/2022	02/2023
<b>Sustainable Water and Ecosystem Protection</b>												
11	W53	Soils	5	48	27	21		M	Christian Valentin, Nicolas Bottinelli, Pascal Jouquet, Mai Hương	F+I	9/2022	02/2023

No.	Module Code	Modules	ECTS	Total teaching hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory subject (M)/ Optional subject (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
12	W55	Aquatic Ecosystem Conservation	2.5	25	15		10	M	Elodie Reveillac	I	9/2022	02/2023
13	W25	Ecotoxicology and Bioindicators	5	50	35	15		M	Paco Bustamante, Christine Dupuy, Mai Huong	F+I	9/2022	02/2023
<b>Semester 2</b>												
14		Internship	30					M			02/2023	9/2023

**ANNEX 6: TEACHING PLAN OF INTERNATIONAL AIR TRANSPORT AND OPERATION MANAGEMENT MASTER PROGRAM**

2022-2023

*(Promulgated with Decision No. 982/QĐ-ĐHKHCN dated September 28<sup>th</sup>, 2022 on approving the teaching plan of master programs in academic year 2022-2023)*

**TEACHING PLAN OF MI**

No.	Module Code	Modules	ECTS	Total syllabus hours	Lecture Hours	Practical Hours	Tutorial Hours	Mandatory module (M)/ Optional module (O)	Lecturer	USTH fulltime lecturer (F)/ Invited lecturer (I)	Start Date	End Date
1	IATOM19_S7_EC401E	Fundamental economics	3	30	30			M	Phạm Thị Mỹ Hạnh	I	9/2022	01/2023
2	IATOM19_S7_CS401E	Project Management	3	46	46			M	Lê Thị Thu Hiền	I	9/2022	01/2023
3	IATOM19_S7_LV401	French culture and language	2	30	30			M	Nguyễn Tuấn Anh, Trương Thị Khánh Hòa	F	9/2022	01/2023
4	IATOM19_S7_AE402E	Fluid mechanics, aerodynamics	4	40	40			M	Cédric Bonnardot	I	9/2022	01/2023
5	IATOM19_S7_AE401E	Flight Mechanics	3	28	28			M	Nguyễn Xuân Bách	F	9/2022	01/2023
6	IATOM22_S7_AE403E	Mechanics of Materials	2	24	24			M	Cédric Bonnardot	I	9/2022	01/2023
7	IATOM19_S7_AE407E	Propulsion	3	29	29			M	Nguyễn Xuân Bách	F	9/2022	01/2023
8	AE_410H	Aerodynamic design and flight control	3	30	30			M	Trần Thế Hùng	I	9/2022	01/2023
9.1	IATOM22_S7_MA413E	Combinatorial Optimization	2	28	16		12	M	Lê Xuân Thanh	I	9/2022	01/2023
9.2	IATOM22_S7_MA412E	Continuous Optimization	1	14	6		8	M	Lê Hải Yến	I	9/2022	01/2023
10	IATOM19_S7_MA410E	Statistics	3	30	30			M	Hồ Đăng Phúc	I	9/2022	01/2023
11	IATOM19_S7_MT401E	General Meteorology - Aeronautical Meteorology	3	32	32			M	Ngô Đức Thành	F	9/2022	01/2023