

MASTER in GREEN CHEMISTRY (2nd year) – 2023-2024

UPS-ENSIACET

1) Pedagogical secretariat

It is managed by Mrs Céline BOURREL-CHARTIER (Division Formation FSI Building U2, Office 26, phone: 05 61 55 65 37; email: celine.bourrel@univ-tlse3.fr).

2) Master's moodle address: <https://moodle.univ-tlse3.fr/>

The site has been updated, you can visit it regularly.

3) Admission in Master in Green Chemistry (GC) (2nd year) at UPS

Applicants who hold a Master GC (1st year) from UPS are automatically eligible for admission for the M2 GC from UPS. On the other hand, applicants who hold a Master (1st year) in chemistry from UPS of another program, an "Agrégation" of chemistry, a Master (1st year) in chemistry or an engineering degree, whether they have graduated from UPS or not, must submit an application. In about thirty countries, including France, an online dematerialized application procedure has been set up. It must be followed to obtain a student "visa". All information is available at <http://www.campusfrance.org/>

A student who has validated at least 45 ECTS from the Master GC (1st year) may be authorized to enroll in the Master GC (2nd year). This situation is called "enjambement" which means that a student can attend certain courses in Master (1st year) and Master (2nd year). It is authorized by the teaching staff only. A student in "enjambement" is enrolled administratively in the two years of the master.

4) Conditions for obtaining the Master GC at UPS

To be admitted to the UPS Master in Green Chemistry (2nd year), the student must have obtained a mark higher than or equal to 10/20 in each semester. Compensation does not apply between semesters 9 and 10. Both TU 'professionalization' and 'English' cannot be compensated. A score higher than or equal to 10/20 must be obtained in each of these TU to be validated. Excluding the TU professionalization and English, the other TUs of semester 9 compensate one another. The semester's average takes into account all the TUs. The candidates who have, during the first phase exam session, obtained an average of less than 10/20 will have to retake the TU for which they obtained less than 10/20 during the second session.

The methods of testing knowledge and skills for each EU are detailed at the end of the document.

5) Semester 9: exams

The assessments of the TU "molecular catalysis" and of "Projet" are anticipated. The exams of the other TUs will take place during week 51 (19-21 December 2023). A session 2 will be take place on the first week of July (Monday, 1 and Tuesday, 2 June 2023). The exam timetable for session 2 will be announced at a later date. The last exam will take place on 2 July.

6) English (UPS students)

The English courses are provided by the Department of Languages. For further information you can visit the site:

<http://langues.ups-tlse.fr/> et <http://moodle.ups-tlse.fr/>

This course includes 24 hours of tutorials (Teacher: Claire Chaplier).

A part of the mark is given in TU "project": evaluation on English quality of written and oral presentation.

7) Courses

Except the TU 'professionalization', the courses and exam subjects of the courses of the TUs of the Master will be in English.

8) Semester 10: Internship in a laboratory - How to choose an internship

The M2 Green Chemistry's program includes a 5 to 6 month laboratory internship which will take place from Monday, 8 January 2024 to Tuesday, 25 June 2024. The oral examinations for lab internships/defense will take place from Wednesday 26 to Friday 28 June 2024. For ENSIACET students, the internship will begin early March 2024. **Defenses must be held in person.**

The subject of the internship must be consistent with the issues of green chemistry. This internship can be carried out in an academic or industrial laboratory, in France or abroad. Assistance in the search for internships will be provided during the TU professionalization. Do not hesitate to contact the teaching team for any request for information.

Students **are responsible for finding a host laboratory and an internship supervisor** to carry out their internship, which in accordance with the regulations in force (Decree No. 2009-885 of 21 July 2009) must give rise to a bonus from the host laboratory.

If the internship is chosen in an industrial or academic sector outside Toulouse, the choice of the internship must be validated by the person in charge of the Green Chemistry program. The title of the subject of the internship, the name of the Laboratory or the Company, the name of the supervisor and her/his electronic contact information must be sent to Madame de Viguerie as soon as possible before the beginning of the internship. The internship **must be related** to the chosen specialty in order to have a consistent curriculum.

If the students wish to do an internship abroad, they will find help by contacting Claire Kammerer (Tel: +33 05 67 52 43 52, E-mail: kammerer@cemes.fr). If they wish to do an internship in an academic laboratory, they will have at their disposal a pdf file containing all the internship proposals made by the laboratories and research teams of the Doctoral School "Physics, Chemistry and Materials Science" / ED sciences de la matière (ED SDM) on **Friday, October 6. The internship supervisor will decide whether or not to accept an application from an intern.**

For these internships, students must submit a ranking with three internship topics in order of preference before November 8 at 2:00 p.m. The supervisor is required to inform Madame de Viguerie (nancy.deviguerie@univ-tlse3.fr) of the selected candidate. S/He must also inform the successful candidate. If candidates are approved simultaneously by several internship supervisors, the final choice of the internship location will be up to the student.

A **MANDATORY** information meeting on internships will take place at the end of exam session (Thursday, 21 December at 4 p.m., week 51). A presentation of the Doctoral School "Physics, Chemistry and Materials Science" / ED sciences de la matière (ED SDM) will be organized in Professionnalisation TU.

9) Books

Books on loan per week

The Master of Chemistry (2nd year) has a number of books listed on the following pages. Students may borrow one or more books for a period not exceeding one week.

BOOKS OF THE MASTER of CHIMIE (2nd year) at UNIVERSITE PAUL SABATIER

Books are sorted alphabetically by the first word of the title without considering the article.

Title	Authors	Publisher	Number of books
1. Advanced inorganic chemistry (6 ^{ème} édition)	F.A. Cotton, G. Wilkinson	Wiley	1
2. Analyse chimique quantitative de Vogel	J. Mendham, R.C. Denney, J.D. Barnes, M. Thomas	De Boeck	1
3. Asymmetric catalysis in organic synthesis	R. Noyori	Wiley	1
4. Basic one- and two-dimensional NMR spectroscopy	H. Friebolin	Wiley	1
5. Beyond oil and gas : the methanol economy	G.A. Olah, A. Goeppert, G.K. Surya Prakash	Wiley	1
6. Biochemistry. The chemical reactions of living cells. Volumes 1 et 2	D.E. Metzler	Academic Press	1 + 1
7. Biochimie	R.H. Garrett, C.M. Grisham	De Boeck	1
8. Biochimie	D. Voet, J.C. Voet	De Boeck	1
9. Biologie moléculaire de la cellule (4 ^{ème} édition)	B. Alberts	Flammarion	1
10. Carbon nanotubes : basic concepts and physical properties	S. Reich, C. Thomsen, J. Maultzsch	Wiley	1
11. Catalyst – Separation, Recovery and recycling	D. Cole-Hamilton, R. Tooze	Springer	1
12. Catalytic asymmetric synthesis	I. Ojima	Wiley	1
13. Chimie inorganique (édition 2001)	P.W. Atkins, D.F. Shriver	De Boeck	1
14. Chimie inorganique (édition 1996)	J. Huheey, E.A. Keiter, R.L. Keiter	De Boeck	1
15. Chimie organique (édition 2002)	J. Clayden, N. Greeves, S. Warren	De Boeck	1
16. Chimie et physico-chimie des polymères	M. Fontanille, Y. Gnanou	Dunod	2
17. Chimie physique (2 ^{ème} édition)	P.W. Atkins, J. de Paula	De Boeck	1
18. La chimie supramoléculaire : concepts et perspectives	J.M. Lehn	De Boeck	1
19. Colloids and colloid assemblies, synthesis, modification, organization and utilization of colloid particles	F. Caruso	Wiley	1
20. Colloid science. Principles, methods and applications	T. Cosgrove	Blackwell Publishing	2
21. Les cristaux liquides	M. Mitov	Que sais-je ? PUF	4
22. De la macromolécule au matériau polymère	J.L. Halary, F. Lauprêtre	Belin	1
23. Formulation cosmétique, Matières premières-concepts et procédés innovants	J.M. Aubry, H. Sebag	EDP sciences	1
24. Fortran 95/2003 explained	M. Metcalf, J. Reid, M. Cohen	Oxford	1
25. Gouttes, bulles, perles et ondes	P.G de Gennes, F. Brochard-Wyart, D. Quéré	Belin	1

26. Handbook of CH transformations. Applications in organic synthesis. Volumes 1 et 2	G. Dyker	Wiley	1 + 1
27. Homogeneous catalysis	P.WNM Van Leeuwen	Klumer Academic Publishers	1
28. Industrial catalysis. A practical approach (2 ^{ème} édition)	J. Hagen	Wiley	1
29. Initiation à la rhéologie (3 ^{ème} édition)	G. Couarraze, J.L. Grossiord	TEC & DOC Lavoisier	1
30. Introduction to computational chemistry	F. Jensen	Wiley	1
31. Initiation à la chimie et la physico-chimie macromoléculaires vol 1 : physico-chimie des polymères	Groupe français d'études et d'applications des polymères	GFP	1
32. Initiation à la chimie et la physico-chimie macromoléculaires vol 2 : propriétés physiques de polymères, mise en oeuvre	Groupe français d'études et d'applications des polymères	GFP	1
33. Initiation à la chimie et la physico-chimie macromoléculaires vol 3 : chimie des polymères	Groupe français d'études et d'applications des polymères	GFP	1
34. Initiation à la chimie et la physico-chimie macromoléculaires vol 6 : mélanges de polymères	Groupe français d'études et d'applications des polymères	GFP	1
35. Initiation à la chimie et la physico-chimie macromoléculaires vol 7 : matériaux composites à base de polymères	Groupe français d'études et d'applications des polymères	GFP	1
36. Initiation à la chimie et la physico-chimie macromoléculaires vol 8 : structure des polymères et méthodes d'études	Groupe français d'études et d'applications des polymères	GFP	1
37. Initiation à la chimie et la physico-chimie macromoléculaires vol :10 physicochimie des polymères	Groupe français d'études et d'applications des polymères	GFP	1
38. Initiation à la chimie et la physico-chimie macromoléculaires vol 11 : nouvelles tendances en chimie des polymères	Groupe français d'études et d'applications des polymères	GFP	1
39. Initiation à la chimie et la physico-chimie macromoléculaires vol 12 : chimie de l'élaboration du matériau polymère	Groupe français d'études et d'applications des polymères	GFP	1
40. Initiation à la chimie et la physico-chimie macromoléculaires vol : 13 les polymères naturels : structure, modifications, applications	Groupe français d'études et d'applications des polymères	GFP	1
41. An Introduction to Chemistry for Biology Students	G. I. Sackheim	PEARSON BENJAMIN CUMMINGS	1
42. Introduction to soft matter, polymer, colloids, amphiphiles and liquid crystals	I.W. Hamley	Wiley	1
43. Les liposomes, aspects technologiques, biologiques et pharmacologiques	J. Delattre, P. Couvreur, F. Puisieux, J.R. Philippot, F. Schuber	INSERM Lavoisier	1
44. Liquides. Solutions, dispersions, émulsions, gels	B. Cabane, S. Hénon	Belin	1
45. Main group metals in organic synthesis- Vol 1	H. Yamamoto et K Oschima	Wiley	1

46. Main group metals in organic synthesis- Vol 2	H. Yamamoto et K Oschima	Wiley	1
47. Matériaux industriels, matériaux polymères	M. Carrega	Dunod	1
48. Mechanisms in homogeneous catalysis. A spectroscopic approach	B. Heaton	Wiley	1
49. Mécanismes réactionnels en chimie organique. Méthodes synthétiques, stéréochimie et réactions modernes	R. Brückner	De Boeck	1
50. Mechanisms in homogeneous catalysis. A spectroscopic approach	B. Eaton	Wiley	1
51. Metal-catalyzed cross-coupling reactions (2 volumes)	A. Meijere, F. Diederich	Wiley	1
52. Modern quantum chemistry. Introduction to advanced electronic structure theory	A. Szabo, N.S. Ostlund	Dover	1
53. Molecular heterogeneous catalysis	R.A. van Santen, M. Neurock	Wiley	1
54. Molecular modelling, principles and applications (2 ^{ème} édition)	A.R. Leach	Pearson Education	1
55. Nanoparticles. From theory to application	G. Schmid	Wiley	1
56. Les nanosciences. Nanotechnologies et nanophysique	M. Lahmani, C. Dupas, P. Houdy	Belin	1
57. Les nanosciences.2. Nanomatériaux et nanochimie	M. Lahmani, C. Bréchignac, P. Houdy	Belin	1
58. Les nanosciences. 3 Nanobiotechnologies et nanobiologie	M. Lahmani, P. Boisseau, P. Houdy	Belin	1
59. Les nouvelles microscopies. A la découverte du nanomonde	L. Aigouy, Y. De Wilde, C. Frétygny	Belin	1
60. The organometallic chemistry of the transition metals (4th edition)	R.H. Crabtree	Wiley	1
61. Photocatalysis : science and technology	M. Kaneko, I. Okura	Springer	2
62. Principes d'analyse instrumentale	D.A. Skoog, F.J. Holler, T.A. Nieman	De Boeck	1
63. Principes de biochimie minérale (édition 1997)	S. Lippard, K.M. Berg	De Boeck	1
64. Principles and practice of heterogeneous catalysis	J.M. Thomas, W.J. Thomas	VCH	1
65. Surfactants and polymers in drug delivery	M. Malmsten	CHIPS	1
66. Transition metals for organic synthesis- Vol 1	M. Beller et C. Bolm	Wiley	1
67. Transition metals for organic synthesis- Vol 2	M. Beller et C. Bolm	Wiley	1
68. A guide to the elements	A. Stwertka	Oxford	1

Conditions for loaning books

The books are stored in the library of the Bâtiment de Chimie. They are locked in the library window. Mrs. D. Brunet, the librarian at the library of the Bâtiment de Chimie, manages the loan of books and draws up loan forms. **The maximum loan period is one week.** Before each loan, Mrs Brunet asks for the student card and the student's telephone number. Any book not returned on time will be charged to the student.