

**MASTER PROGRAM, Chemistry - 2016/2017
First Semester (1M)****A. Basic Courses**

| Mandatory Classes | | | | | | |
|--------------------------|--------------------------|----------------|---------|------------|--------------|-------------------------|
| N° | Course Title | No. of Hours | Lecture | Laboratory | ECTS credits | Form of competition |
| 1. | Theoretical Chemistry A | 75 | 30 | 45 | 7.5 | Exam |
| 2. | Instrumental Analysis | 75 | 30 | 45 | 7.5 | Exam |
| 3. | Molecular Spectroscopy A | 60 | 30 | 30 | 6 | Exam |
| 4. | Crystallography A | 30 | 10 | 20 | 3 | Exam |
| 5. | Directional Course (PK) | 60 | 0/30 | 60 | 6 | Completion with a grade |
| Total (mandatory) | | 300/330 | | | 30 | |

B. Elective Courses

| Electives | | | | | | |
|-----------|--|--------------|---------|------------|--------------|-------------------------|
| N° | Course Title | No. of Hours | Lecture | Laboratory | ECTS credits | Form of competition |
| 6. | Organic Chemistry | 30 | 30 | | 3 | Exam |
| 7. | Inorganic Chemistry | 30 | 30 | | 3 | Exam |
| 8. | Physical Chemistry | 30 | 30 | | 3 | Exam |
| 9. | Nuclear Chemistry | 30 | 30 | | 3 | Exam |
| 10. | Laboratory of Physical Chemistry | 120 | | 120 | 10 | Completion with a grade |
| 11. | PK1: Physics and Chemistry of New Materials - laboratory | 60 | | 60 | 6 | Completion with a grade |
| 12. | PK2: Theoretical Chemistry - laboratory | 60 | | 60 | 6 | Completion with a grade |
| 13. | PK3: Organic Synthesis - laboratory | 60 | | 60 | 6 | Completion with a grade |
| 14. | PK4: Environmental Analysis | 90 | 30 | 60 | 6 | Completion with a grade |
| 15. | PK5: Crystallography - laboratory | 60 | | 60 | 6 | Completion with a grade |
| 16. | PK6: Polymers and Biomaterials - laboratory | 60 | | 60 | 6 | Completion with a grade |

Note: During the second degree chemistry studies student is obliged to obtain: (a) at least 6 ECTS and not more than 8 ECTS for subjects that are not related to the field of studies (general courses), including general university subjects from the areas of humanities and social sciences minimum 5 ECTS, and (b) during the first three semesters - 1 ECTS in the context of physical exercises course.

Each year a student is expected to accumulate 60 ECTS credits (however, minimum 30 ECTS credits per a semester).

Therefore, for M.Sc. a student has to obtain 120 ECTS credits (2 years x 60 points).

Total number of hours: 300 / 330

Total number of ECTS credits: 30

Other classes of the semester 1M needed to obtain the required number of credits must be selected from a list of dedicated subject to second-degree students majoring in chemistry (implemented in the fall semester.)

Note: During the second cycle student of the Chemistry Department is required to include subjects unrelated to their field of study (general university) in an amount not less than 6 credits and not more than 8 ETSC.

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UNIVERSITY OF WARSAW

Faculty of Chemistry

1 Pasteura Str., 02-093 Warsaw, Poland

**MASTER PROGRAM, Chemistry - 2016/2017
Second Semester (2M)**

| Mandatory Classes | | | | | | | |
|-------------------|---|-------------|----------|---------|----------|--------------|-------------------------|
| N° | Course Title | N° of Hours | Lectures | Prosem. | Laborat. | ECTS credits | Form of completion |
| 1. | Lecture of specialization No. 1 selected from the list of specialization lectures | 30 | 30 | | | 3 | Exam |
| 2. | Lecture of specialization No. 2 selected from the list of specialization lectures | 30 | 30 | | | 3 | Exam |
| 3. | Monographic lecture No. 1 selected from the list of monographic lectures | 15 | 15 | | | 1.5 | Exam |
| 4. | Monographic lecture No. 2 selected from the list of monographic lectures | 15 | 15 | | | 1.5 | Exam |
| 5. | Laboratory of specialization I | 120 | | | 120 | 10 | Completion with a grade |
| | Total (mandatory) | 210 | | | | 19 | |

Note: During the second degree chemistry studies student is obliged to obtain: (a) at least 6 ECTS and not more than 8 ECTS for subjects that are not related to the field of studies (general courses), including general university subjects from the areas of humanities and social sciences minimum 5 ECTS, and (b) during the first three semesters - 1 ECTS in the context of physical exercises course.

Each year a student is expected to accumulate 60 ECTS credits (however, minimum 30 ECTS credits per a semester). Therefore, for M.Sc. a student has to obtain 120 ECTS credits (2 years x 60 points).

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**MASTER PROGRAM, Chemistry - 2016/2017
Third Semester (3M)**

| Mandatory Classes | | | | | | | |
|-------------------|---|-------------|----------|---------|----------|--------------|-------------------------|
| N° | Course Title | N° of Hours | Lectures | Prosem. | Laborat. | ECTS credits | Form of completion |
| 1. | Master seminar I | 30 | | 30 | | 2 | Completion with a grade |
| 2. | Laboratory of specialization II (preparation of M. Sc. Project) | 250 | | | 250 | 18 | Completion with a grade |
| | Total (mandatory) | 280 | | | | 20 | |

Note: During the second degree chemistry studies student is obliged to obtain: (a) at least 6 ECTS and not more than 8 ECTS for subjects that are not related to the field of studies (general courses), including general university subjects from the areas of humanities and social sciences minimum 5 ECTS, and (b) during the first three semesters - 1 ECTS in the context of physical exercises course.

Each year a student is expected to accumulate 60 ECTS credits (however, minimum 27 ECTS credits per a semester). Therefore, for M.Sc. a student has to obtain 120 ECTS credits (2 years x 60 points).

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**MASTER PROGRAM, Chemistry - 2016/2017
Fourth Semester (4M)**

| Mandatory Classes | | | | | | | |
|-------------------|--|-------------|----------|---------|----------|--------------|-------------------------|
| N° | Course Title | N° of Hours | Lectures | Prosem. | Laborat. | ECTS credits | Form of completion |
| 1. | Master seminar II | 30 | | 30 | | 4 | Completion with a grade |
| 2. | Laboratory of specialization II (preparation of M. Sc. thesis and graduation exam) | 200 | | | 200 | 20 | Completion with a grade |
| | Total (mandatory) | 230 | | | | 24 | |

Note: During the second degree chemistry studies student is obliged to obtain: (a) at least 6 ECTS and not more than 8 ECTS for subjects that are not related to the field of studies (general courses), including general university subjects from the areas of humanities and social sciences minimum 5 ECTS, and (b) during the first three semesters - 1 ECTS in the context of physical exercises course.

Each year a student is expected to accumulate 60 ECTS credits (however, minimum 27 ECTS credits per a semester). Therefore, for M.Sc. a student has to obtain 120 ECTS credits (2 years x 60 points).

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