

# CHEMISTRY

(Classe LM-54)

## Piano di Studi Coorte A.A. 2021/2022

### Primo Anno

| denominazione attività formativa/insegnamento  | SSD     | CFU               | Ore             | Sem. | TAF |
|--|---------|-------------------|-----------------|------|-----|
| Advanced Physical Chemistry I Course           | CHIM/02 | 6                 | 48              | I    | B   |
| Advanced Inorganic Chemistry I Course          | CHIM/03 | 6                 | 48              | I    | B   |
| Advanced Organic Chemistry I Course            | CHIM/06 | 6                 | 48Lect          | I    | B   |
| Advanced Analytical Chemistry                  | CHIM/01 | 6                 | 48              | I    | B   |
| Course 1*                                      |         | 6                 | 48              | I    | C   |
| Health and Safety in the Working Environment** |         | 1                 | 16              | I    | F   |
| Advanced Biological Chemistry                  | BIO/10  | 6                 | 48              | II   | B   |
| Advanced Physical Chemistry II Course          | CHIM/02 | 6                 | 48              | II   | B   |
| Advanced Inorganic Chemistry II Course         | CHIM/03 | 6                 | 48              | II   | B   |
| Advanced Organic Chemistry II Course           | CHIM/06 | 6<br>(4Lect+2Lab) | 32Lect<br>32Lab | II   | B   |
| Course 2*                                      |         | 6                 | 48              | II   | C   |
| Totale CFU dell'anno                           |         | <b>61</b>         |                 |      |     |

\*Courses 1, 2 to be selected among the following course sets

\*\* Students who had the Laurea Triennale in Italy and attended the equivalent course, can request CFU recognition from the teaching committee

### Chemistry for life

| denominazione attività formativa/insegnamento                                     | SSD     | CFU | Ore           | Sem. | TAF |
|---|---------|-----|---------------|------|-----|
| Retrosynthesis  | CHIM/06 | 6   | 48            | II   | C   |
| Surface chemistry and nanomaterials   | CHIM/02 | 6   | 48            | I    | C   |
| Protein crystallography   | CHIM/03 | 6   | 48            | II   | C   |
| Elements of computational organic spectroscopy                                    | CHIM/06 | 6   | 48            | II   | C   |
| Smart materials and nanocarriers  | CHIM/03 | 6   | 48            | II   | C   |
| Quantum chemistry with application to thermal and photochemical organic reactions |         |     |               |      |     |
| <b>Modulo I: Theory</b>   | CHIM/06 | 3   | 24            | II   | C   |
| <b>Modulo II: Applications</b>  | CHIM/06 | 3   | 8Lect<br>24Ex | II   | C   |

### Chemistry for a sustainable development

| denominazione attività formativa/insegnamento | SSD     | CFU | Ore | Sem. | TAF |
|---|---------|-----|-----|------|-----|
| Nutraceutical and food chemistry              | CHIM/02 | 6   | 48  | II   | C   |
| Environmental spectroscopy                    | CHIM/01 | 6   | 48  | II   | C   |
| Industrial biotechnology                      | CHIM/02 | 6   | 48  | II   | C   |

**Secondo Anno**

| denominazione attività formativa/insegnamento | SSD | CFU       | Ore | Sem. | TAF |
|---|-----|-----------|-----|------|-----|
| Student's choice                              |     | 6         |     |      | D   |
| Student's choice                              |     | 6         |     |      | D   |
| Course 3*                                     |     | 6         | 48  | I    | C   |
| Other training affairs                        |     | 3         |     |      | F   |
| Internship in a Company/in a research lab     |     | 12        |     | I    | S   |
| Experimental project for final dissertation   |     | 26        |     | II   | E   |
| Totale CFU dell'anno                          |     | <b>59</b> |     |      |     |

\*Course 3 to be selected among the following course sets

**Chemistry for life**

| denominazione attività formativa/insegnamento | SSD     | CFU | Ore | Sem. | TAF |
|---|---------|-----|-----|------|-----|
| NMR applications for Food Chemistry           | CHIM/03 | 6   | 48  | I    | C   |
| Informatics for chemistry and biology         | BIO/10  | 6   | 48  | I    | C   |

**Chemistry for a sustainable development**

| denominazione attività formativa/insegnamento | SSD     | CFU | Ore | Sem. | TAF |
|---|---------|-----|-----|------|-----|
| Sustainable and efficient energy              | CHIM/02 | 6   | 48  | I    | C   |
| Green chemistry and Catalysis                 | CHIM/06 | 6   | 48  | I    | C   |
| Remediation of contaminated sites             | CHIM/02 | 6   | 48  | I    | C   |