

## Programme Regulations: 2024/25

### Programme Title:

**Degree of Master of Chemistry with Honours in Chemistry with Medicinal Chemistry with Industrial Training**

**UCAS Code: F124**

### Notes

- (i) *These programme regulations should be read in conjunction with the University's Taught Programme Regulations.*
- (ii) *All optional modules are offered subject to the constraints of the timetable and to any restrictions on the number of students who may be taught on a particular module. Not all modules may be offered in all years and they are listed subject to availability.*
- (iii) *A compulsory module is a module which a student is required to study.*
- (iv) *If a candidate meets the requirements for the three year plus intercalating year degree, BSc Honours in Chemistry with Medicinal Chemistry with Industrial Training (F122) or the three year degree BSc Honours in Chemistry with Medicinal Chemistry (F151) or the four year degree MChem with Honours in Chemistry with Medicinal Chemistry (F123), they may transfer to that programme at any time before the beginning of the placement year.*
- (v) *Programme transfers for Tier 4 students may be restricted by current Tier 4 rules. Please refer to the Visa Team for advice.*

### 1. Stage 1

- (a) All candidates shall take the following compulsory modules:

| <i>Code</i> | <i>Descriptive title</i>            | <i>Total Credits</i> | <i>Credits Sem 1</i> | <i>Credits Sem 2</i> | <i>Level</i> |
|-------------|-------------------------------------|----------------------|----------------------|----------------------|--------------|
| NES1400     | Chemical Laboratory Skills 1        | 20                   | 10                   | 10                   | 4            |
| NES1401     | Chemical Skills and Professionalism | 10                   | 10                   |                      | 4            |
| NES1402     | Fundamentals of Organic Chemistry   | 20                   | 10                   | 10                   | 4            |
| NES1403     | Fundamentals of Inorganic Chemistry | 20                   | 10                   | 10                   | 4            |
| NES1404     | Fundamentals of Physical Chemistry  | 20                   |                      | 20                   | 4            |
| NES1406     | General Chemistry                   | 10                   | 10                   |                      | 4            |

### (b) Candidates who have A Level Maths grade C or below:

- (i) All candidates shall take the following compulsory module:

| <i>Code</i> | <i>Descriptive title</i>         | <i>Total Credits</i> | <i>Credits Sem 1</i> | <i>Credits Sem 2</i> | <i>Level</i> |
|-------------|----------------------------------|----------------------|----------------------|----------------------|--------------|
| NES1405     | Mathematical Skills for Chemists | 10                   | 10                   |                      | 4            |

- (ii) All candidates shall take 10 credits of optional modules normally selected from the following list:

| <i>Code</i> | <i>Descriptive title</i>                          | <i>Total Credits</i> | <i>Credits Sem 1</i> | <i>Credits Sem 2</i> | <i>Level</i> |
|-------------|---|----------------------|----------------------|----------------------|--------------|
| NES1005     | Natural Science Research Impact                   | 10                   |                      | 10                   | 4            |
| NES1206     | Climate Change and the Earth System               | 10                   | 10                   |                      | 4            |
| NES1407     | Introduction to Scientific Computing for Chemists | 10                   |                      | 10                   | 4            |
| NES1408     | Fundamentals of Biological Chemistry              | 10                   |                      | 10                   | 4            |

**(c) Candidates who have A Level Maths grade B or above:**

(i) All candidates shall take 20 credits of optional modules normally selected from the following list:

| <i>Code</i> | <i>Descriptive title</i>                          | <i>Total Credits</i> | <i>Credits Sem 1</i> | <i>Credits Sem 2</i> | <i>Level</i> |
|-------------|---|----------------------|----------------------|----------------------|--------------|
| NES1005     | Natural Science Research Impact                   | 10                   |                      | 10                   | 4            |
| NES1206     | Climate Change and the Earth System               | 10                   | 10                   |                      | 4            |
| NES1407     | Introduction to Scientific Computing for Chemists | 10                   |                      | 10                   | 4            |

To progress to Stage 2 of this degree programme, candidates are required to obtain an average over all modules taken at Stage 1 of at least 60.

**2. Stage 2**

(a) All candidates shall take the following compulsory modules:

| <i>Code</i> | <i>Descriptive title</i>     | <i>Total Credits</i> | <i>Credits Sem 1</i> | <i>Credits Sem 2</i> | <i>Level</i> |
|-------------|------------------------------|----------------------|----------------------|----------------------|--------------|
| NES2202     | Sustainable Solutions        | 10                   | 10                   |                      | 5            |
| NES2400     | Chemical Laboratory Skills 2 | 20                   | 10                   | 10                   | 5            |
| NES2401     | Structural Chemistry         | 10                   | 10                   |                      | 5            |
| NES2402     | Organic Chemistry            | 20                   | 10                   | 10                   | 5            |
| NES2403     | Inorganic Chemistry          | 20                   | 10                   | 10                   | 5            |
| NES2404     | Physical Chemistry           | 20                   | 10                   | 10                   | 5            |
| NES2405     | Medicinal Chemistry          | 10                   |                      | 10                   | 5            |

(b) All candidates shall take 10 credits of optional modules normally selected from the following list:

| <i>Code</i> | <i>Descriptive title</i>                  | <i>Total Credits</i> | <i>Credits Sem 1</i> | <i>Credits Sem 2</i> | <i>Level</i> |
|-------------|---|----------------------|----------------------|----------------------|--------------|
| NES2407     | Applied Computational Medicinal Chemistry | 10                   |                      | 10                   | 5            |
| NES2408     | Chemistry of the Atmosphere               | 10                   |                      | 10                   | 5            |

To progress to Stage 3 of this degree programme, candidates are required to obtain an average over all modules taken at Stage 2 of at least 55.

**3. Stage 3 (Industrial Placement Year)**

(a) All candidates shall take the following compulsory modules:

| <i>Code</i> | <i>Descriptive title</i>                         | <i>Total Credits</i> | <i>Credits Sem 1</i> | <i>Credits Sem 2</i> | <i>Level</i> |
|-------------|--|----------------------|----------------------|----------------------|--------------|
| NES3406     | Advanced Organic Chemistry (Distance Learning)   | 20                   | 10                   | 10                   | 6            |
| NES3407     | Advanced Inorganic Chemistry (Distance Learning) | 20                   | 10                   | 10                   | 6            |
| NES3411     | Project in Industry                              | 80                   | 40                   | 40                   | 7            |

In order to progress to Stage 4, candidates must achieve a module mark of at least 40 in each module at the first attempt.

#### 4. Stage 4

(a) All candidates shall take the following compulsory modules:

| <i>Code</i> | <i>Descriptive title</i>                                | <i>Total Credits</i> | <i>Credits Sem 1</i> | <i>Credits Sem 2</i> | <i>Level</i> |
|-------------|---|----------------------|----------------------|----------------------|--------------|
| NES3405     | Advanced Medicinal Chemistry                            | 20                   | 10                   | 10                   | 6            |
| NES8400     | Research Project  | 70                   | 10                   | 60                   | 7            |
| NES8401     | Advanced Problem Solving                                | 10                   | 10                   |                      | 7            |
| NES8403     | Advanced Methods in Chemical Biology and Drug Discovery | 10                   | 10                   |                      | 7            |

(b) All candidates shall take 10 credits of optional modules normally selected from the following list:

| <i>Code</i> | <i>Descriptive title</i>                           | <i>Total Credits</i> | <i>Credits Sem 1</i> | <i>Credits Sem 2</i> | <i>Level</i> |
|-------------|--|----------------------|----------------------|----------------------|--------------|
| NES3408     | Advanced Structural Chemistry                      | 10                   | 10                   |                      | 6            |
| NES8402     | Selectivity and Stereocontrol in Organic Synthesis | 10                   | 10                   |                      | 7            |
| NES8404     | Pericyclic and Radical Reactions                   | 10                   | 10                   |                      | 7            |
| NES8405     | Chemistry far from Equilibrium                     | 10                   | 10                   |                      | 7            |
| NES8406     | Contemporary Catalysis: Principles and Application | 10                   | 10                   |                      | 7            |
| NES8407     | Modern aspects of Inorganic Chemistry              | 10                   | 10                   |                      | 7            |
| NES8408     | Energy and Materials                               | 10                   | 10                   |                      | 7            |

With the approval of the Degree Programme Director, an alternative module to those listed above may be selected to the value of 10 credits.

#### 5. Assessment methods

Details of the assessment pattern for each module are explained in the module outline.

#### 6. Degree classification

Candidates will be assessed for degree classification on the basis of all the modules taken at Stages 2, 3 and 4 with the weighting of the stages being 1:2:2 for Stages 2, 3 and Stage 4 respectively.