1. Awarding body  | University of Surrey
2. Teaching institution (if different)  | N/A
3. Final award and programme/pathway title  | MRes Chemistry
4. Subsidiary award(s) and title(s)  | Award | Title | N/A | N/A
5. FHEQ Level  | 7
6. Credits and ECTS credits  | 180 credits (90 ECTS credits)
7. Name of Professional, Statutory or Regulatory Body (PSRB)  | N/A
8. Mode of study and route code  | Mode of study | Route code
| Full-time  | Y  |
| Full-time with PTY  | N  |
| Part-time  | N  |
| Distance learning  | N  |
| Short course  | N  |
9. JACs code  | N/A
10. QAA Subject benchmark statement (if applicable)  | Chemistry Statement
11. Other internal and / or external reference points  | N/A
12. Faculty and Department/School  | Faculty of Engineering and Physical Sciences
| Department of Chemistry
13. Programme Leader  | Dr David Watson
14. Date of production/revision of the specification  | August 2016

15. Educational aims of the programme
- The aim of the MRes is training in the more laboratory-based aspects of chemical research. The objectives and learning outcomes/skills are that the student will be able to: assess, plan, carry out, analyse, interpret and disseminate (all with appropriate training and supervision) a significant piece of chemistry research to an extent that results in a satisfactory assessment of a dissertation and viva.
- In addition, competence in related (non-laboratory based) aspects of research training will be assessed via examination (formal exam and/or coursework) of lecture/workshop-based modules.
- A knowledge of discipline-related aspects of professional training including data analysis, literature searching and reporting and presentation techniques.

16. Programme learning outcomes – the programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:

**Knowledge and understanding**
1. Knowledge and understanding of the scientific method
2. Knowledge and understanding of research ethos and strategy
3. Knowledge and understanding of advanced communication skills
4. Knowledge and understanding of reporting of technical concepts
5. Knowledge and understanding of critical analysis
6. Knowledge and understanding of advanced aspects of chemistry including subjects at the frontiers of the discipline
7. Knowledge and understanding of advanced principles in a research led area of chemistry
8. Knowledge and understanding of Health and Safety legislation
9. Knowledge and understanding of statistics for data analysis
10. Knowledge and understanding of the principles of experimental design

**Intellectual / cognitive skills**

1. The ability to plan and carry out an advance research project
2. The ability to analyse and solve problems of technical nature under consideration of various constraints
3. The ability to make effective and efficient decisions in an environment of conflicting interests
4. The ability to think strategically
5. The ability to synthesise and critically evaluate the work of others
6. The ability to apply fundamental knowledge to investigate new and emerging technologies
7. The ability to self-reflect to improve behaviour

**Professional practical skills**

1. Assessment of the research literature
2. Risk assess experiments / procedures
3. Design and set up experiments using the most appropriate methods
4. Carry out laboratory work safely
5. Deal safely with unexpected events / results
6. Apply prior knowledge to new situations

**Key / transferable skills**

1. Planning
2. Organisation
3. Independent working
4. Apply prior knowledge to unfamiliar problem
5. Using initiative
6. Time-management
7. Personal development planning
8. Use of word processor, spreadsheet, presentation, graphical software packages
9. Management of data
10. Effective literature / patent searching

17. Programme structure – including the route / pathway / field requirements, levels modules, credits, awards and further information on the mode of study.

All programmes operate on a 15 credit modular structure over two semesters. All taught modules are semester based and are worth 15 credits, which is indicative of 150 hours of learning, comprised of student contact, private study and assessment. The following requirements apply to MRes programmes:

- a dissertation range from 90-150 credits at FHEQ level 7
- one or more modules on research methods training with a total value of not less than 30 credits at FHEQ level 7
- discipline-related modules on research methods training with a total value of not more than 30 credits at FHEQ level 7

Credits achieved from completing the dissertation / final project module cannot be attributed to a subsidiary award. Students are unable to submit their dissertation until they have successfully
completed their taught modules.

The largest element is the research project which formally consists of ~1350 hours, which contributes 75% of the final credits to the degree, includes the laboratory based research, library work, COSHH, record keeping and writing the dissertation. We would normally expect the laboratory based part of the project to be, on average 2-3 full days per week during the teaching Semesters and 5 days per week during non-teaching times (for example undergraduate Christmas, Easter and Summer breaks).

This programme is studied full-time over one academic year. In order to achieve the principal award of an MRes a student must complete 180 credits, with a minimum of 150 credits at FHEQ level 7 and the remainder at FHEQ level 6.

In order for students to progress they must achieve a minimum average of 50%.

<table>
<thead>
<tr>
<th>Module code</th>
<th>Module title</th>
<th>Core /compulsory /optional</th>
<th>Credit volume</th>
<th>Semester (1 / 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHRM002</td>
<td>Management, Communication &amp; IT Skills</td>
<td>Compulsory</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>CHEM021</td>
<td>Advanced Spectroscopy</td>
<td>Optional</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>CHEM024</td>
<td>Biomolecules and Medicinal Chemistry</td>
<td>Optional</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>CHEM025</td>
<td>Advanced Topics in Organic Chemistry</td>
<td>Optional</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>CHEM026</td>
<td>Advanced Topics in Inorganic Chemistry</td>
<td>Optional</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>CHEM027</td>
<td>Advanced Topics in Physical Chemistry</td>
<td>Optional</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>CHEM031</td>
<td>Advanced Polymer Materials and Nanotechnology</td>
<td>Optional</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>CHEM032</td>
<td>Advanced Medicinal Chemistry</td>
<td>Optional</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>CHEM034</td>
<td>Advanced Methods in Forensics</td>
<td>Optional</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>CHRM008</td>
<td>MRes Research Project</td>
<td>Compulsory</td>
<td>135</td>
<td>1,2 &amp; Summer</td>
</tr>
</tbody>
</table>

How many optional modules must a student choose in order to achieve the necessary amount of credits to achieve this level? Students will need to choose 2 from 8 optional modules.

18. Opportunities for placements / work-related learning / collaborative activity – please indicate if any of the following apply to your programme

<table>
<thead>
<tr>
<th>Associate Tutor(s) / Guest Speakers / Visiting Academics</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Training Year (PTY)</td>
<td>N/A</td>
</tr>
<tr>
<td>Placement(s) (study or work that are not part of the PTY or Erasmus Scheme)</td>
<td>N/A</td>
</tr>
<tr>
<td>Clinical Placement(s) (that are not part of the PTY Scheme)</td>
<td>N/A</td>
</tr>
<tr>
<td>ERASMUS Study (that is not taken during Level P)</td>
<td>N/A</td>
</tr>
<tr>
<td>Study exchange(s) (that are not part of the ERASMUS Scheme)</td>
<td>N/A</td>
</tr>
<tr>
<td>Dual degree</td>
<td>N/A</td>
</tr>
</tbody>
</table>

19. Quality assurance

The Regulations and Codes of Practice for taught programmes can be found at: [http://www.surrey.ac.uk/quality_enhancement/index.htm](http://www.surrey.ac.uk/quality_enhancement/index.htm)