

## School of Chemistry

### B.Sc. Honours

The general requirements are 480 credits over a period of normally four years (and not more than five years) or part-time equivalent, of which the final two years form an approved Honours programme of 240 credits, of which 90 credits are at 4000 level and at least a further 120 credits at 3000 and/or 4000 levels.

### B.Sc. Honours with Integrated Year Abroad

The general requirements are 540 credits over a period of normally five years (and not more than six years) or part-time equivalent, of which the final three years are an approved Honours programme of 300 credits, of which 60 credits are gained during the integrated year abroad, 90 credits are at 4000 level and at least a further 120 credits at 3000 and/or 4000 levels.

### M.Chem. Honours

The general requirements are 600 credits over a period of normally five years (and not more than six years) or part-time equivalent, the final three years of which form an approved Honours programme of 360 credits, of which 120 credits are at 5000 level and at least a further 210 credits at 3000 and 4000 levels.

### M.Sci. Honours

The general requirements are 600 credits over a period of normally five years (and not more than six years) or part-time equivalent, the final three years of which form an approved Honours programme of 360 credits, of which 120 credits are at 5000 level and at least a further 210 credits at 3000 and 4000 levels.

**Other information:** Direct entry into Level 2000 is possible, in which case credit of 120 credits at level 1000 is given on the basis of school examinations.

**Study Abroad:** In the case of students who spend part of the Honours programme on a recognised Study Abroad scheme, the Programme Requirements will be amended to take into account overseas courses which are approved by the relevant St Andrews School in the Learning Agreement.

(see <http://www.st-andrews.ac.uk/studyabroad/outgoingstudents/AcademicInformation/>).

**Professional Accreditation:** Unless otherwise stated all degree programmes in Chemistry are accredited by the Royal Society of Chemistry (RSC) for professional membership.

### Biomolecular Science - Single Honours B.Sc.

First Year:	80 credits: BL1101 <b>and</b> BL1102 <b>and</b> CH1401 <b>and</b> CH1601.
Second Year:	120 credits: BL2101 <b>and</b> BL2104 <b>and</b> CH2501 <b>and</b> CH2601 - with passes at grade 11 or better in all.
Third Year:	120 credits: BL3301 <b>and</b> BL3310 <b>and</b> BL3312 <b>and</b> CH3431 <b>and</b> CH3612 <b>and</b> CH3613 <b>and</b> CH3615 <b>and</b> CH3621 <b>and</b> CH3716.
Fourth Year:	55 credits: BL4210 <b>and</b> CH4442; 45 credits in three of: BL4212, BL4213, BL4215, BL4216, BL4222, BL4223; 20 credits in two of: CH4612, CH4613, CH4614, CH5611, CH5612, CH5613, CH5614, CH5616. <i>Alternatively, by special arrangement only:</i> 75 credits: BL4201 <b>and</b> BL4210; 50 credits in five of: CH4612, CH4613, CH4614, CH5611, CH5612, CH5613, CH5614, CH5616.

## Chemistry - Programme Requirements 2012/13 - October 2012

### Biomolecular Science - Single Honours B.Sc.

**Direct entry to second year** for approved candidates with 120 advanced standing credits.

Second Year:	10 credits: CH1202; 120 credits: BL2101 <b>and</b> BL2104 <b>and</b> CH2501 <b>and</b> CH2601 - with passes at grade 11 or better in all.
Third Year:	120 credits: BL3301 <b>and</b> BL3310 <b>and</b> BL3312 <b>and</b> CH3431 <b>and</b> CH3612 <b>and</b> CH3613 <b>and</b> CH3615 <b>and</b> CH3621 <b>and</b> CH3716.
Fourth Year:	55 credits: BL4210 <b>and</b> CH4442; 45 credits in three of: BL4212, BL4213, BL4215, BL4216, BL4222, BL4223; 20 credits in two of: CH4612, CH4613, CH4614, CH5611, CH5612, CH5613, CH5614, CH5616. <i>Alternatively, by special arrangement only:</i> 75 credits: BL4201 <b>and</b> BL4210; 50 credits in five of: CH4612, CH4613, CH4614, CH5611, CH5612, CH5613, CH5614, CH5616.

### Chemical Sciences - Single Honours B.Sc.

First Year:	60 credits: CH1401 <b>and</b> CH1402 <b>and</b> CH1601.
Second Year:	90 credits: CH2501 <b>and</b> CH2601 <b>and</b> CH2701 - with passes at grade 11 or better in all.
Third Year:	120 credits: CH3431 <b>and</b> CH3441 <b>and</b> CH3514 <b>and</b> CH3512 <b>and</b> CH3521 <b>and</b> CH3612 <b>and</b> CH3615 <b>and</b> CH3621 <b>and</b> CH3712 <b>and</b> CH3717 <b>and</b> CH3721.
Fourth Year:	40 credits: CH4442; 40 credits in four of: CH4514, CH4612, CH4614, CH4714, CH5717; 40 credits in four of: CH4515, CH4613, CH4712, CH4713, CH5516 - CH5518, CH5612 - CH5614, CH5616, CH5712 - CH5714, CH5718.

Other information: This course is aimed at those who like Chemistry and were good at it at school, who want the varied training that a Chemistry Degree gives, but who do not wish to be professional Chemists. Up to 30 credits from the 3000 - level and 4000 - level modules listed above can be replaced with modules from other Schools.

### Chemical Sciences - Single Honours B.Sc.

**Direct entry to second year** for approved candidates with 120 advanced standing credits

Second Year:	10 credits: CH1202; 90 credits: CH2501 <b>and</b> CH2601 <b>and</b> CH2701 - with passes at grade 11 or better in all.
Third Year:	120 credits: CH3431 <b>and</b> CH3441 <b>and</b> CH3514 <b>and</b> CH3512 <b>and</b> CH3521 <b>and</b> CH3612 <b>and</b> CH3615 <b>and</b> CH3621 <b>and</b> CH3712 <b>and</b> CH3717 <b>and</b> CH3721.
Fourth Year:	40 credits: CH4442; 40 credits in four of: CH4514, CH4612, CH4614, CH4714, CH5717; 40 credits in four of: CH4515, CH4613, CH4712, CH4713, CH5516 - CH5518, CH5612 - CH5614, CH5616, CH5712 - CH5714, CH5718.

Other information: This course is aimed at those who like Chemistry and were good at it at school, who want the varied training that a Chemistry Degree gives, but who do not wish to be professional Chemists. Up to 30 credits from the 3000 - level and 4000 - level modules listed above can be replaced with modules from other Schools.

## Chemistry - Programme Requirements 2012/13 - October 2012

### Chemistry - Single Honours B.Sc.

First Year: 60 credits: CH1401 **or** CH1402 **or** CH1601.  
Second Year: 90 credits: CH2501 **and** CH2601 **and** CH2701 - with passes at grade 11 or better in all.  
Third Year: 120 credits: CH3431 **and** CH3441 **and** CH3514 **and** CH3512 **and** CH3521 **and** CH3612 **and** CH3615 **and** CH3621 **and** CH3712 **and** CH3717 **and** CH3721.  
Fourth Year: 50 credits: CH4442 **and** CH4461;  
30 credits: CH4514 **and** CH4614 **and** CH4714;  
20 credits in two of: CH4515, CH4613, CH4712, CH4713;  
20 credits in two of: CH5516 - CH5518, CH5612 - CH5614, CH5616, CH5712-CH5714, CH5718.

### Chemistry - Single Honours B.Sc.

**Direct entry to second year** for approved candidates with 120 advanced standing credits.

Second Year: 10 credits: CH1202;  
90 credits: CH2501 **and** CH2601 **and** CH2701 - with passes at grade 11 or better in all.  
Third Year: 120 credits: CH3431 **and** CH3441 **and** CH3514 **and** CH3512 **and** CH3521 **and** CH3612 **and** CH3615 **and** CH3621 **and** CH3712 **and** CH3717 **and** CH3721.  
Fourth Year: 50 credits: CH4442 **and** CH4461;  
30 credits: CH4514 **and** CH4614 **and** CH4714;  
20 credits in two of: CH4515, CH4613, CH4712, CH4713;  
20 credits in two of: CH5516 - CH5518, CH5612 - CH5614, CH5616, CH5712-CH5714, CH5718.

### Chemistry - Joint Honours B.Sc.

#### Chemistry and Geology - Joint Honours B.Sc.

First Year: 100 credits: CH1401 **and** CH1402 **and** CH1601 **and** ES1001 **and** ES1002.  
Second Year: 90 credits: CH2501 **and** ES2001 **and** ES2002 - with passes at grade 11 or better in all.  
30 credits: CH2601 **or** CH2701.  
Third Year: 120 credits: CH3431 **and** CH3514 **and** CH3521 **and** CH3712 **and** CH3717 **and** CH3721 **and** ES3001 **and** ES3004 **and** ES3006 **and** ES3009.  
Fourth Year: 30 credits in three of: CH4514, CH4614, CH4714, CH4712, CH5711, CH5717;  
50 credits: (ES4010 **with** CH4448) **or** ID4441;  
10 credits: CH5518;  
30 credits in two of: ES3008, ES4006, ES4007, ES4009, ID4001.  
In total, 240 credits must be achieved at 3000 and 4000 level with at least 90 of these at 4000 level.

## Chemistry - Programme Requirements 2012/13 - October 2012

### Chemistry and Mathematics - Joint Honours B.Sc.

#### Chemistry element of Chemistry and Mathematics Joint Honours B.Sc.:

First Year: 60 credits: CH1401 and CH1402 and CH1601.  
Second Year: 60 credits: CH2501 and CH2701 - with passes at grade 11 or better in both.  
Third Year: 30 credits in three of: CH3431, CH3512, CH3615, CH3621, CH3717, CH3721;  
30 credits: CH3441, CH3514, CH3521, CH3712, CH3715.  
Fourth Year: 40 credits: CH4442;  
10 credits: CH4514 or CH4614 or CH4612 or CH4714;  
10 credits: CH4515 or CH4613 or CH4712 or CH4713.  
In total, 240 credits must be achieved at 3000 and 4000 level with at least 90 of these at 4000 level.

### Chemistry with French - Honours B.Sc.

First Year: 100 credits: CH1401 and CH1402 and CH1601 and FR1001 and FR1002.  
Second Year: 20 credits: FR2021;  
100 credits: CH2501 and CH2603 and CH2701 and FR2022 - with passes at grade 11 or better in all.  
Third Year: 50 credits: CH3441 and FR3001 and FR3002;  
70 credits in seven of: CH3431, CH3514, CH3512, CH3521, CH3612, CH3615, CH3621, CH3712, CH3717, CH3721.  
*Year Abroad: WIYA version only: 60 credits comprising FR3101.*  
Fourth Year: 70 credits: CH4442 and FR4105 and FR4106;  
50 credits in five of: CH4461, CH4514, CH4515, CH4613, CH4614, CH4714, CH4712, CH4713.

### Chemistry with Medicinal Chemistry - Single Honours B.Sc.:

First Year: 60 credits: CH1401 and CH1402 and CH1601.  
Second Year: 90 credits: CH2501 and CH2601 and CH2701.  
Third Year: 120 credits: CH3431 and CH3441 and CH3514 and CH3512 and CH3521 and CH3612 and CH3613 and CH3615 and CH3621 and CH3716 and CH3721.  
Fourth Year: 100 credits: CH4442 and CH4461 and CH4514 and CH4614 and CH4612 and CH4613 and CH5611;  
20 credits in two of: CH5612 - CH5614, CH5616.

### Chemistry with Medicinal Chemistry - Single Honours B.Sc.

**Direct entry to second year for approved candidates with 120 advanced standing credits.**

Second Year: 10 credits: CH1202;  
90 credits: CH2501 and CH2601 and CH2701 - with passes at grade 11 or better in all.  
Third Year: 120 credits: CH3431 and CH3441 and CH3514 and CH3512 and CH3521 and CH3612 and CH3613 and CH3615 and CH3621 and CH3716 and CH3721.  
Fourth Year: 100 credits: CH4442 and CH4461 and CH4514 and CH4614 and CH4612 and CH4613 and CH5611;  
20 credits in two of: CH5612 - CH5614, CH5616.

**Chemistry with Pharmacology - Single Honours B.Sc.**

Not available to entrants after 2010-11

First Year:	80 credits: BL1101 <b>and</b> BL1102 <b>and</b> CH1401 <b>and</b> CH1601.
Second Year:	120 credits: BL2101 <b>and</b> BL2104 <b>and</b> CH2501 <b>and</b> CH2601 – with passes at grade 11 or better in all.
Third Year:	40 credits: BL3312 <b>and</b> BL3313; 60 credits: CH3431 <b>and</b> CH3512 <b>and</b> CH3615 <b>and</b> CH3621 <b>and</b> CH3716 <b>and</b> CH3721; 20 credits in two of: CH3441, CH3514, CH3612, CH3613.
Fourth Year:	50 credits: CH4447 <b>and</b> CH4461; 70 credits in seven of: CH4514, CH4515, CH4612 - CH4614, CH4712 - CH4714, CH5611 - CH5614, CH5616.
The project CH4447 will be supervised jointly by staff from Chemistry and Biology.	

**Materials Chemistry - Single Honours B.Sc.**

First Year:	120 credits: CH1401 <b>and</b> CH1402 <b>and</b> CH1601 <b>and</b> PH1011 <b>and</b> PH1012 <b>and</b> MT1002.
Second Year:	90 credits: CH2501 <b>and</b> CH2601 <b>and</b> CH2701 – with passes of grade 11 or better in all. 30 credits: PH2011 <b>or</b> MT2001 – with a pass at grade 11 or better.
Third Year:	100 credits: CH3441 <b>and</b> CH3513 <b>and</b> CH3712 <b>and</b> CH3715 <b>and</b> CH3717 <b>and</b> CH3722 <b>and</b> PH3074 <b>and</b> PH4039; 20 further credits: CH3000 - CH3999.
Fourth Year:	90 credits: CH4442 <b>and</b> CH4452 <b>and</b> CH4714 <b>and</b> CH4712; 30 further credits: CH4000 - CH5999.

**Chemistry - Single Honours M.Chem.**

First Year:	60 credits: CH1401 <b>and</b> CH1402 <b>and</b> CH1601.
Second Year:	90 credits: CH2501 <b>and</b> CH2601 <b>and</b> CH2701 - with passes at grade 15 or better in all.
Third Year:	120 credits: CH3431 <b>and</b> CH3441 <b>and</b> CH3514 <b>and</b> CH3512 <b>and</b> CH3521 <b>and</b> CH3612 <b>and</b> CH3615 <b>and</b> CH3621 <b>and</b> CH3712 <b>and</b> CH3717 <b>and</b> CH3721.
Fourth Year:	120 credits: CH4442 <b>and</b> CH4514 <b>and</b> CH4515 <b>and</b> CH4612 <b>and</b> CH4613 <b>and</b> CH4614 <b>and</b> CH4712 <b>and</b> CH4713 <b>and</b> CH4714.
Fifth Year:	80 credits: CH5441 <b>and</b> CH5461 <b>and</b> CH5511 <b>and</b> CH5611 <b>and</b> CH5711. 40 credits in four of: CH5516 - CH5518, CH5612 - CH5614, CH5616, CH5712 - CH5714, CH5717 - CH5718.

**Chemistry - Single Honours M.Chem.**

**Direct entry to second year** for approved candidates with 120 advanced standing credits

Second Year:	10 credits comprising CH1202; 90 credits: CH2501 <b>and</b> CH2601 <b>and</b> CH2701 - with passes at grade 15 or better in all.
Third Year:	120 credits: CH3431 <b>and</b> CH3441 <b>and</b> CH3514 <b>and</b> CH3512 <b>and</b> CH3521 <b>and</b> CH3612 <b>and</b> CH3615 <b>and</b> CH3621 <b>and</b> CH3712 <b>and</b> CH3717 <b>and</b> CH3721.
Fourth Year:	120 credits: CH4442 <b>and</b> CH4514 <b>and</b> CH4515 <b>and</b> CH4612 <b>and</b> CH4613 <b>and</b> CH4614 <b>and</b> CH4712 <b>and</b> CH4713 <b>and</b> CH4714.
Fifth Year:	80 credits: CH5441 <b>and</b> CH5461 <b>and</b> CH5511 <b>and</b> CH5611 <b>and</b> CH5711 40 credits in four of: CH5516 - CH5518, CH5612 - CH5614, CH5616, CH5712 - CH5714, CH5717 - CH5718.

## Chemistry - Programme Requirements 2012/13 - October 2012

### Chemistry with External Placement - Single Honours M.Chem.

First Year:	60 credits: CH1401 and CH1402 and CH1601.
Second Year:	90 credits: CH2501 and CH2601 and CH2701 - with passes at 15 or better in all
Third Year:	120 credits: CH3431 and CH3441 and CH3514 and CH3512 and CH3521 and CH3612 and CH3615 and CH3621 and CH3712 and CH3717 and CH3721.
Fourth Year:	120 credits: CH4441 and CH4451.
Fifth Year:	80 credits: CH5441 and CH5461 and CH5511 and CH5611 and CH5711; 40 credits in four of: CH5516 - CH5518, CH5612 - CH5614, CH5616, CH5712 - CH5714, CH5717 - CH5718.

### Chemistry with External Placement - Single Honours M.Chem.

#### Direct entry to second year for approved candidates with 120 advanced standing credits

Second Year:	10 credits: CH1202; 90 credits: CH2501 and CH2601 and CH2701 – with passes at grade 15 or better in all.
Third Year:	120 credits: CH3431 and CH3441 and CH3514 and CH3512 and CH3521 and CH3612 and CH3615 and CH3621 and CH3712 and CH3717 and CH3721.
Fourth Year:	120 credits: CH4441 and CH4451.
Fifth Year:	80 credits: CH5441 and CH5461 and CH5511 and CH5611 and CH5711 40 credits in four of: CH5516 - CH5518, CH5612 - CH5614, CH5616, CH5712 - CH5714, CH5717 - CH5718.

### Chemistry with French - Honours M.Chem.

First Year:	100 credits: CH1401 and CH1402 and CH1601 and FR1001 and FR1002.
Second Year:	20 credits: FR2021; 20 credits: FR2022 - with a pass at grade 11 or better. 80 credits: CH2501 and CH2603 and CH2701 - with passes at grade 15 or better in all.
Third Year:	50 credits: CH3441 and FR3001 and FR3002; 70 credits in seven of: CH3431, CH3514, CH3512, CH3521, CH3612, CH3615, CH3621, CH3712, CH3717, CH3721.
Fourth Year:	100 credits: CH4442 and CH4514 and CH4614 and CH4714 and FR5810; 20 credits in two of: CH4515, CH4613, CH4712, CH4713.
Fifth Year:	80 credits: CH5441 and CH5461 and FR4105 and FR4106; 40 credits in four of: CH5511, CH5516 - CH5518, CH5611 - CH5614, CH5616, CH5711 - CH5714, CH5717 - CH5718.

### Chemistry with French and External Placement - Honours M.Chem.

First Year:	100 credits: CH1401 and CH1402 and CH1601 and FR1001 and FR1002.
Second Year:	20 credits: FR2021; 20 credits: FR2022 - with a pass at grade 11 or better. 80 credits: CH2501 and CH2603 and CH2701 - with passes at grade 15 or better in all.
Third Year:	50 credits: CH3441 and FR3001 and FR3002; 70 credits in seven of: CH3431, CH3514, CH3512, CH3521, CH3612, CH3615, CH3621, CH3712, CH3717, CH3721.
Fourth Year:	120 credits: CH4441 and FR5810.
Fifth Year:	80 credits: CH5441 and CH5461 and FR4105 and FR4106; 40 credits in four of: CH5511, CH5516 - CH5518, CH5611 - CH5614, CH5616, CH5711 - CH5714, CH5717 - CH5718.

## Chemistry - Programme Requirements 2012/13 - October 2012

### Chemistry with Mathematics - Honours M.Chem.

First Year:	80 credits: CH1401 <b>and</b> CH1402 <b>and</b> CH1601 <b>and</b> MT1002. <i>(Students without prerequisite for MT1002 will take MT1001 in Semester 1.)</i>
Second Year:	90 credits: CH2501 <b>and</b> CH2701 <b>and</b> MT2001 - with passes at grade 15 or better in all; 30 credits: MT2002 (for Pure Maths options) <b>or</b> MT2003 (for Applied Maths options).
Third Year (Chemistry):	20 credits: CH3441; 60 credits in six of: CH3431, CH3514, CH3512, CH3521, CH3615, CH3621, CH3712, CH3715, CH3717, CH3721;
Fourth Year (Chemistry):	40 credits: CH4442; 30 credits in three of: CH4514, CH4515, CH4614, CH4612, CH4613, CH4714, CH4712, CH4713;
Third and Fourth Years (Maths):	30 credits in two of: MT3501, MT3503, MT3504; 15 credits: MT3600 <b>or</b> MT3601; 45 further credits: MT3000 - MT4598, MT4600 - MT4999.
Fifth Year:	90 credits: CH5441 <b>and</b> CH5461 <b>and</b> CH5711 <b>and</b> CH5712 <b>and</b> CH5713 <b>and</b> CH5714; 30 credits in three of: CH5511, CH5516 - CH5518, CH5611 - CH5616, CH5717 - CH5718.

### Chemistry with Medicinal Chemistry - Single Honours M.Chem.

First Year:	60 credits: CH1401 <b>and</b> CH1402 <b>and</b> CH1601.
Second Year:	90 credits: CH2501 <b>and</b> CH2601 <b>and</b> CH2701 - with passes at grade 15 or better in all.
Third Year:	120 credits: CH3431 <b>and</b> CH3441 <b>and</b> CH3514 <b>and</b> CH3512 <b>and</b> CH3521 <b>and</b> CH3612 <b>and</b> CH3613 <b>and</b> CH3615 <b>and</b> CH3621 <b>and</b> CH3716 <b>and</b> CH3721.
Fourth Year:	120 credits: CH4442 <b>and</b> CH4514 <b>and</b> CH4515 <b>and</b> CH4612 <b>and</b> CH4613 <b>and</b> CH4614 <b>and</b> CH4714 <b>and</b> CH5612 <b>and</b> CH5614.
Fifth Year:	120 credits: CH5441 <b>and</b> CH5461 <b>and</b> CH5511 <b>and</b> CH5516 <b>and</b> CH5517 <b>and</b> CH5518 <b>and</b> CH5611 <b>and</b> CH5613 <b>and</b> CH5616.

### Chemistry with Medicinal Chemistry - Single Honours M.Chem.

**Direct entry to second year for approved candidates with 120 advanced standing credits**

Second Year:	10 credits: CH1202; 90 credits: CH2501 <b>and</b> CH2601 <b>and</b> CH2701 - with passes at grade 15 or better in all.
Third Year:	120 credits: CH3431 <b>and</b> CH3441 <b>and</b> CH3514 <b>and</b> CH3512 <b>and</b> CH3521 <b>and</b> CH3612 <b>and</b> CH3613 <b>and</b> CH3615 <b>and</b> CH3621 <b>and</b> CH3716 <b>and</b> CH3721.
Fourth Year:	120 credits: CH4442 <b>and</b> CH4514 <b>and</b> CH4515 <b>and</b> CH4612 <b>and</b> CH4613 <b>and</b> CH4614 <b>and</b> CH4714 <b>and</b> CH5612 <b>and</b> CH5614.
Fifth Year:	120 credits: CH5441 <b>and</b> CH5461 <b>and</b> CH5511 <b>and</b> CH5516 <b>and</b> CH5517 <b>and</b> CH5518 <b>and</b> CH5611 <b>and</b> CH5613 <b>and</b> CH5616.

## Chemistry - Programme Requirements 2012/13 - October 2012

### Chemistry with Medicinal Chemistry and External Placement - Single Honours M.Chem.

First Year:	60 credits: CH1401 and CH1402 and CH1601.
Second Year:	90 credits: CH2501 and CH2601 and CH2701 - with passes at grade 15 or better in all.
Third Year:	120 credits: CH3431 and CH3441 and CH3514 and CH3512 and CH3521 and CH3612 and CH3613 and CH3615 and CH3621 and CH3716 and CH3721.
Fourth Year:	120 credits: CH4441 and CH4451.
Fifth Year:	120 credits: CH5441 and CH5461 and CH5511 and CH5611 and CH5612 and CH5613 and CH5614 and CH5615 and CH5616.

### Chemistry with Medicinal Chemistry and External Placement - Single Honours M.Chem.

**Direct entry to second year** for approved candidates with 120 advanced standing credits

Second Year:	10 credits: CH1202; 90 credits: CH2501 and CH2601 and CH2701 - with passes at grade 15 or better in all.
Third Year:	120 credits: CH3431 and CH3441 and CH3514 and CH3512 and CH3521 and CH3612 and CH3613 and CH3615 and CH3621 and CH3716 and CH3721.
Fourth Year:	120 credits: CH4441 and CH4451.
Fifth Year:	120 credits: CH5441 and CH5461 and CH5511 and CH5611 and CH5612 and CH5613 and CH5614 and CH5615 and CH5616.

### Chemistry and Physics - Joint Honours M.Sci.

First Year:	100 credits: CH1401 and CH1402 and MT1002 and PH1011 and PH1012. <i>(Permission may be granted for suitably-qualified students to be exempted from PH1011 and/or PH1012 and to take some 2000-level PH credits in First Year.)</i>
Second Year:	150 credits: CH2501 and CH2701 and MT2001 and PH2011 and PH2012 - with passes at grade 15 or better in all.
Third or Fourth Year*:	120 credits: CH3431 and CH3441 and CH3512 and CH3514 and CH3615 and CH3712 and CH3717 and CH3721 and CH4712 and CH4713 and CH4714.
Third or Fourth Year*:	120 credits: PH3007 and PH3012 and PH3061 and PH3062 and PH3082 and PH3101 and PH4022 and PH4037 and PH4039.
Fifth Year:	<b>EITHER</b> 60 credits: PH5101; 15 further credits in one of: PH5000 - PH5999; 30 credits in three of: CH5518, CH5711 - CH5714, CH5717 - CH5718; 15 further credits: CH5000 - CH5999, PH5000 - PH5999. <b>OR</b> 40 credits from CH5441; 30 credits: PH5000 - PH5999; 30 credits: CH5518, CH5711 - CH5714, CH5717 - CH5718; 20 further credits: CH5000 - CH5999, PH5000 - PH5999.

\* This will be decided between the two Schools and notified to students.



## Chemistry - Programme Requirements 2012/13 - October 2012

### Materials Chemistry - Single Honours M.Chem.

First Year:	120 credits: CH1401 <b>and</b> CH1402 <b>and</b> CH1601 <b>and</b> PH1011 <b>and</b> PH1012 <b>and</b> MT1002.
Second Year:	90 credits: CH2501 <b>and</b> CH2601 <b>and</b> CH2701 - with passes at grade 15 or better in all; 30 credits: PH2011 <b>or</b> MT2001 - with a pass at grade 15 or better.
Third Year:	120 credits: CH3441 <b>and</b> CH3513 <b>and</b> CH3712 <b>and</b> CH3715 <b>and</b> CH3717 <b>and</b> CH3722 <b>and</b> CH4714 <b>and</b> CH4712 <b>and</b> PH3074 <b>and</b> PH4039.
Fourth Year:	100 credits: CH3514 <b>and</b> CH4442 <b>and</b> CH4452 <b>and</b> CH4515 <b>and</b> CH4713; 20 credits in two of: CH3512, CH3612, CH3613, CH3615, CH4514.
Fifth Year:	110 credits: CH5441 <b>and</b> CH5518 <b>and</b> CH5711 <b>and</b> CH5712 <b>and</b> CH5713 <b>and</b> CH5716 <b>and</b> CH5717 <b>and</b> CH5718; 10 credits: PH5208 <b>or</b> PH5022.

### Materials Chemistry with External Placement - Single Honours M.Chem.

First Year:	120 credits: CH1401 <b>and</b> CH1402 <b>and</b> CH1601 <b>and</b> PH1011 <b>and</b> PH1012 <b>and</b> MT1002.
Second Year:	90 credits: CH2501 <b>and</b> CH2601 <b>and</b> CH2701 - with passes at grade 15 or better in all. 30 credits: PH2011 <b>or</b> MT2001 - with a pass at grade 15 or better.
Third Year:	120 credits: CH3441 <b>and</b> CH3513 <b>and</b> CH3712 <b>and</b> CH3715 <b>and</b> CH3717 <b>and</b> CH3722 <b>and</b> CH4714 <b>and</b> CH4712 <b>and</b> PH3074 <b>and</b> PH4039.
Fourth Year:	120 credits: CH4441 <b>and</b> CH4452.
Fifth Year:	110 credits: CH5441 <b>and</b> CH5518 <b>and</b> CH5711 <b>and</b> CH5712 <b>and</b> CH5713 <b>and</b> CH5716 <b>and</b> CH5717 <b>and</b> CH5718; 10 credits: PH5208 <b>or</b> PH5022.

Students still completing degree programmes as defined in previous Course Catalogues should discuss their module selections with their Honours Adviser(s).