

These programme regulations should be read in conjunction with the University's [core regulations for undergraduate programmes](#).

MSci Natural Sciences (FGC0)

1. This programme is available at Durham City, in a full-time mode of study.
2. All module selections must be approved by the Deputy Head of Faculty (Natural Sciences) and be compatible in the timetable.
3. At Levels 1 and 2 students take modules from at least two and no more than four subjects, to a maximum of 80 credits per subject. The selection must include at least one subject in which Level 4 modules are available.
4. At Level 3 students take modules from at least two and no more than three subjects to a maximum of 80 credits per subject. The selection may include up to 40 credits from outside the list of modules that make up the Natural Sciences programme and must include at least one subject in which Level 4 modules are available.
5. At Level 4 students take modules from at least one and no more than three subjects to a maximum of 120 credits per subject and to include a research project to the value of at least 40 credits.
6. Within the Natural Sciences programme certain combinations of modules will be known as Joint Honours degrees. Students who follow these combinations of modules will be awarded a specific title for their degree.
7. Students who follow an approved Joint Honours degree will be awarded an MSci in A and B within the Natural Sciences programme, where A and B are replaced by the approved subject titles. Normally each subject will have a single subject title.
8. In order to qualify for the degree MSci in A and B within the Natural Sciences programme, students in Levels 2, 3 and 4 normally study modules from two subjects. Students must select not less than 160 and not more than 200 credits from each of the two subjects during the second, third and fourth levels of the programme.
9. The degree certificate issued to successful students who have not taken an MSci Joint Honours degree shall list all subjects in which they have taken at least 40 credits during the final three levels of the programme.
10. The MSci in Natural Sciences allows students to take modules from two or more subjects in a four year programme. The range of subjects is limited. Students are allowed to take modules from a single subject in the final year if they have the appropriate prerequisites.
11. The following MSci Joint Honours degrees are available:

MSci Biology and Chemistry (FGC0)

12. This programme is available at Durham City, in a full-time mode of study.

Level 1 (Certificate)

13. Candidates shall study and be assessed in the following modules:

| | Credit value |
|---------------------|-----------------------------|
| Genetics | BIOL1171 20 |
| Molecules and Cells | BIOL1281 20 |
| Core Chemistry 1A | CHEM1012 40 |

14. Candidates shall also study and be assessed in modules to the value of 40 credits from those offered by any board of studies.

15. Candidates wishing to study for an accredited degree must study and be assessed in the following module:

| | Credit value |
|-------------------|-----------------------------|
| Core Chemistry 1B | CHEM1022 40 |

Level 2 (Diploma)

16. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|---|--------------------------|--------------|
| Core Chemistry 2 | CHEM2012 | 40 |
| Structure and Reactivity in Organic Chemistry | CHEM2031 | 20 |
| Biochemistry | BIOL2381 | 20 |
| Animal Physiology | BIOL2351 | 20 |
| Plant Physiology | BIOL2401 | 20 |

Level 3 (Degree)

17. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|--|--------------------------|--------------|
| Bioactive Chemistry 3 | CHEM3211 | 20 |
| Biological Chemistry | CHEM2051 | 20 |
| Advanced Organic Chemistry | CHEM3031 | 20 |
| Molecular Biology | BIOL2371 | 20 |
| Biotechnology | BIOL3511 | 20 |
| Stress and Response to the Environment | BIOL3491 | 20 |

Level 4 (Degree)

18. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|-----------------------|--------------------------|--------------|
| Research Skills | CHEM4081 | 20 |
| Bioactive Chemistry 4 | CHEM4211 | 20 |
| Biomolecular Analysis | BIOL4011 | 20 |

19. Candidates shall also study and be assessed in modules to the value of 60 credits from List A:

| List A: | | Credit value |
|---|--------------------------|--------------|
| EITHER | | |
| (Bioactive Chemistry Research Project | CHEM4272 | 40 |
| AND Biochemistry Research Project (S)) | BIOL4031 | 20 |
| OR | | |
| (Bioactive Chemistry Research Project | CHEM4271 | 20 |
| AND Biochemistry Research Project (D)) | BIOL4022 | 40 |

MSci Biology and Physics (FGC0)

20. This programme is available at Durham City, in a full-time mode of study.

Level 1 (Certificate)

21. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|--------------------------|--------------------------|--------------|
| Genetics | BIOL1171 | 20 |
| Molecules and Cells | BIOL1281 | 20 |
| Foundations of Physics 1 | PHYS1122 | 40 |

22. Candidates shall also study and be assessed in modules to the value of 40 credits from List B:

| List B: | | Credit value |
|--|--------------------------|--------------|
| (Linear Algebra I AND | MATH1071 | 20 |
| Calculus and Probability I) | MATH1061 | 20 |
| OR (Single Mathematics A AND | MATH1561 | 20 |
| Single Mathematics B) | MATH1571 | 20 |

Level 2 (Diploma)

23. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|---------------------------------|--------------------------|--------------|
| Development | BIOL2361 | 20 |
| Cell Structure and Function | BIOL2341 | 20 |
| Molecular Biology | BIOL2371 | 20 |
| Foundations of Physics 2A | PHYS2581 | 20 |
| Mathematical Methods in Physics | PHYS2611 | 20 |
| Discovery Skills in Physics | PHYS1101 | 20 |

Level 3 (Degree)

24. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|-------------------------------------|--------------------------|--------------|
| Cell Architecture | BIOL3481 | 20 |
| Genes and Development | BIOL3521 | 20 |
| Stem Cells and Tissue Engineering | BIOL3531 | 20 |
| Laboratory Skills and Electronics 3 | PHYS3681 | 20 |
| Foundations of Physics 3B | PHYS3631 | 20 |
| Foundations of Physics 2A | PHYS2581 | 20 |

Level 4 (Degree)

EITHER

25. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|----------------------------------|--------------------------|--------------|
| Project | PHYS4213 | 60 |
| Biological Imaging | BIOL4081 | 20 |
| Biophysical Research Project (S) | BIOL4071 | 20 |

26. Candidates shall also study and be assessed in modules to the value of 20 credits from List C:

| List C: | | Credit value |
|----------------------------|--------------------------|--------------|
| Theoretical Physics 4 | PHYS4191 | 20 |
| Atomic and Optical Physics | PHYS4121 | 20 |

OR

27. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|----------------------------------|--------------------------|--------------|
| Biological Imaging | BIOL4081 | 20 |
| Biophysical Research Project (T) | BIOL4063 | 60 |
| Theoretical Physics 4 | PHYS4191 | 20 |
| Atomic and Optical Physics | PHYS4121 | 20 |

MSci Chemistry and Mathematics (FGC0)

28. This programme is available at Durham City, in a full-time mode of study.

Level 1 (Certificate)

29. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|--------------------------------|--------------------------|--------------|
| Core Chemistry 1A | CHEM1012 | 40 |
| Linear Algebra I | MATH1071 | 20 |
| Calculus and Probability I | MATH1061 | 20 |
| Analysis I | MATH1051 | 20 |
| Problem Solving And Dynamics I | MATH1041 | 20 |

Level 2 (Diploma)

30. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|-------------------------------|--------------------------|---------------------|
| Core Chemistry 2 | CHEM2012 | 40 |
| Properties of Molecules | CHEM2041 | 20 |
| Complex Analysis II | MATH2011 | 20 |
| Analysis of Many Variables II | MATH2031 | 20 |
| Mathematical Physics II | MATH2071 | 20 |

Level 3 (Degree)

31. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|----------------------------------|--------------------------|---------------------|
| Chemical Physics 3 | CHEM3411 | 20 |
| Computational Chemistry | CHEM2061 | 20 |
| Molecules and their Interactions | CHEM3041 | 20 |
| Electromagnetism III | MATH3181 | 20 |
| Quantum Mechanics III | MATH3111 | 20 |

32. Candidates shall also study and be assessed in Level 2 or Level 3 modules to the value of 20 credits from those offered by the Department of Mathematical Sciences .

Level 4 (Degree)

EITHER

33. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|----------------------------|--------------------------|---------------------|
| Chemistry Research Project | CHEM4073 | 60 |
| Research Skills | CHEM4081 | 20 |

34. Candidates shall also study and be assessed in modules to the value of 40 credits from those offered by the Department of Mathematical Sciences:

OR

35. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|--------------------|--------------------------|---------------------|
| Chemical Physics 4 | CHEM4411 | 20 |
| Project IV | MATH4072 | 40 |

36. Candidates shall also study and be assessed in modules to the value of 20 credits from List D:

| List D: | | Credit value |
|----------------------------------|--------------------------|---------------------|
| Computational Chemical Physics 4 | CHEM4471 | 20 |

37. Candidates shall also study and be assessed in modules to the value of 40 credits from those offered by the Department of Mathematical Sciences:

MSci Chemistry and Physics (FGC0)

38. This programme is available at Durham City, in a full-time mode of study.

Level 1 (Certificate)

39. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|--------------------------|--------------------------|---------------------|
| Core Chemistry 1A | CHEM1012 | 40 |
| Foundations of Physics 1 | PHYS1122 | 40 |

40. Candidates shall also study and be assessed in modules to the value of 40 credits from List E:

| List E: | | Credit value |
|--|--------------------------|---------------------|
| (Linear Algebra I AND | MATH1071 | 20 |
| Calculus and Probability I) | MATH1061 | 20 |
| OR (Single Mathematics A AND | MATH1561 | 20 |
| Single Mathematics B) | MATH1571 | 20 |

Level 2 (Diploma)

41. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|---------------------------------|--------------------------|---------------------|
| Core Chemistry 2 | CHEM2012 | 40 |
| Properties of Molecules | CHEM2041 | 20 |
| Foundations of Physics 2A | PHYS2581 | 20 |
| Mathematical Methods in Physics | PHYS2611 | 20 |
| Discovery Skills in Physics | PHYS1101 | 20 |

Level 3 (Degree)

42. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|-------------------------------------|--------------------------|---------------------|
| Chemical Physics 3 | CHEM3411 | 20 |
| Computational Chemistry | CHEM2061 | 20 |
| Molecules and their Interactions | CHEM3041 | 20 |
| Foundations of Physics 3B | PHYS3631 | 20 |
| Foundations of Physics 2A | PHYS2581 | 20 |
| Laboratory Skills and Electronics 3 | PHYS3681 | 20 |

Level 4 (Degree)

EITHER

43. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|--------------------|--------------------------|---------------------|
| Project | PHYS4213 | 60 |
| Chemical Physics 4 | CHEM4411 | 20 |

44. Candidates shall also study and be assessed in modules to the value of 20 credits from List F:

| List F: | | Credit value |
|----------------------------------|--------------------------|---------------------|
| Computational Chemical Physics 4 | CHEM4471 | 20 |

45. Candidates shall also study and be assessed in modules to the value of 20 credits from List G:

| List G: | | Credit value |
|----------------------------|--------------------------|---------------------|
| Atomic and Optical Physics | PHYS4121 | 20 |
| Theoretical Physics 4 | PHYS4191 | 20 |

OR

46. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|----------------------------|--------------------------|---------------------|
| Chemistry Research Project | CHEM4073 | 60 |
| Research Skills | CHEM4081 | 20 |
| Atomic and Optical Physics | PHYS4121 | 20 |

47. Candidates shall also study and be assessed in modules to the value of 20 credits from List H:

| List H: | | Credit value |
|----------------------------------|--------------------------|---------------------|
| Theoretical Physics 4 | PHYS4191 | 20 |
| Chemical Physics 4 | CHEM4411 | 20 |
| Computational Chemical Physics 4 | CHEM4471 | 20 |

MSci Mathematics and Physics (FGC0)

48. This programme is available at Durham City, in a full-time mode of study.

Level 1 (Certificate)

49. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|----------------------------|--------------------------|---------------------|
| Foundations of Physics 1 | PHYS1122 | 40 |
| Linear Algebra I | MATH1071 | 20 |
| Calculus and Probability I | MATH1061 | 20 |
| Analysis I | MATH1051 | 20 |

50. Candidates shall also study and be assessed in modules to the value of 20 credits from List I:

| List I: | | Credit value |
|--------------------------------|--------------------------|---------------------|
| Problem Solving And Dynamics I | MATH1041 | 20 |
| Discovery Skills in Physics | PHYS1101 | 20 |

Level 2 (Diploma)

51. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|-------------------------------|--------------------------|---------------------|
| Analysis in Many Variables II | MATH2031 | 20 |
| Complex Analysis II | MATH2011 | 20 |
| Foundations of Physics 2A | PHYS2581 | 20 |
| Theoretical Physics 2 | PHYS2631 | 20 |

52. Candidates shall also study and be assessed in modules to the value of 20 credits from List J:

| List J: | | Credit value |
|---|--------------------------|---------------------|
| Foundations of Physics 2B | PHYS2591 | 20 |
| Discovery Skills in Physics (if not taken previously) | PHYS1101 | 20 |

53. Candidates shall also study and be assessed in Level 2 modules to the value of 20 credits from those offered by the Department of Mathematical Sciences.

Level 3 (Degree)

54. Candidates shall study and be assessed in the following modules:

| | | Credit value |
|---|--------------------------|---------------------|
| Foundations of Physics 3A | PHYS3621 | 20 |
| Theoretical Physics 3 | PHYS3661 | 20 |
| Foundations of Physics 3C (if Foundations of Physics 2B was not taken at Level 2) | PHYS3671 | 20 |

55. Candidates shall also study and be assessed in modules to the value of 0 or 20 credits from List K:

| List K: | | Credit value |
|---------------------------------------|--|---------------------|
| Any other Level 2 or 3 Physics module | | 20 |

56. Candidates shall also study and be assessed in modules to the value of 60 credits from List L:

| List L1 (2012-2013): | | Credit value |
|-----------------------------|--------------------------|---------------------|
| Elliptic Functions III | MATH3221 | 20 |
| Solitons III | MATH3231 | 20 |
| Statistical Mechanics III | MATH3351 | 20 |

| List L2 (2012-2013): | | Credit value |
|-----------------------------|--------------------------|---------------------|
| Algebraic Geometry III | MATH3321 | 20 |
| Analysis III | MATH3011 | 20 |
| Continuum Mechanics III | MATH3101 | 20 |
| General Relativity III | MATH3331 | 20 |

| List L3: | | Credit value |
|---------------------------|--------------------------|---------------------|
| Differential Geometry III | MATH3021 | 20 |

| | | |
|------------------------------------|--------------------------|----|
| Dynamical Systems III | MATH3091 | 20 |
| Electromagnetism III | MATH3181 | 20 |
| Mathematical Biology III | MATH3171 | 20 |
| Mathematical Finance III | MATH3301 | 20 |
| Mathematical Teaching III | MATH3121 | 20 |
| Operations Research III | MATH3141 | 20 |
| Partial Differential Equations III | MATH3291 | 20 |
| Topology III | MATH3281 | 20 |

Level 4 (Degree)

57. Candidates shall study and be assessed in modules to the value of 40 or 60 credits from List M:

| List M: | | Credit value |
|---------------------|--------------------------|---------------------|
| Mathematics Project | MATH4072 | 40 |
| Project | PHYS4213 | 60 |

58. Candidates shall also study and be assessed in modules to the value of 40 credits from List N:

| List N1 (2012-2013): | | Credit value |
|-----------------------------|--------------------------|---------------------|
| Elliptic Functions IV | MATH4151 | 20 |
| Solitons IV | MATH4121 | 20 |
| Statistical Mechanics IV | MATH4231 | 20 |

| List N2 (2011-2012): | | Credit value |
|-----------------------------|--------------------------|---------------------|
| Algebraic Geometry IV | MATH4011 | 20 |
| Analysis IV | MATH4201 | 20 |
| Continuum Mechanics IV | MATH4081 | 20 |
| General Relativity IV | MATH4051 | 20 |

| List N3: | | Credit value |
|----------------------------|--------------------------|---------------------|
| Advanced Quantum Theory IV | MATH4061 | 20 |
| Algebraic Topology IV | MATH4161 | 20 |
| Mathematical Finance IV | MATH4181 | 20 |
| Operations Research IV | MATH4251 | 20 |
| Riemannian Geometry IV | MATH4171 | 20 |

59. Candidates shall also study and be assessed in modules to the value of 20 or 40 credits from List O:

| List O: | | Credit value |
|-----------------------------------|--------------------------|---------------------|
| Advanced Condensed Matter Physics | PHYS4151 | 20 |
| Advanced Theoretical Physics | PHYS4141 | 20 |
| Particle Theory | PHYS4181 | 20 |
| Theoretical Astronomy | PHYS4201 | 20 |
| Atomic and Optical Physics | PHYS4121 | 20 |
| Astrophysics 4 | PHYS4131 | 20 |
| Condensed Matter Physics 4 | PHYS4111 | 20 |
| Theoretical Physics 4 | PHYS4191 | 20 |

Assessment, progression and award

- Students whose achievement at the end of Level 2 does not qualify them to proceed to Level 3 of their Joint Honours degree MSci A and B in Natural Sciences but who achieve the standard required for progression to Level 3 of a Bachelors programme may progress to Level 3 of an appropriate programme within the BSc Natural Sciences programme in the Honours or Ordinary stream in accordance with the Core Regulations.
- A student who is qualified to progress from Level 2 to Level 3 of their Joint Honours MSci A and B degree but wishes to transfer to Level 3 of an appropriate degree within the BSc Natural Sciences programme shall be permitted to do so.
- Students whose achievement at the end of Level 3 does not qualify them to proceed to Level 4 of their Joint Honours degree MSci A and B in Natural Sciences may be awarded an appropriate degree within the BSc Natural Sciences programme at either Honours or Ordinary level in accordance with the Core Regulations for the award of a Bachelors degree.
- Students whose achievement at the end of Level 4 does not qualify them to be awarded their Joint Honours degree MSci A and B in Natural Sciences may be awarded an appropriate degree within the BSc Natural

Sciences programme with Honours in accordance with the Core Regulations for the award of a Bachelors degree.

64. MSci Mathematics and Physics: Discovery Skills in Physics (PHYS1101) must be taken in either Level 1 or Level 2.
65. MSci Mathematics and Physics: either Theoretical Physics (PHYS3551) must be taken in Level 3 or Theoretical Physics 4 (PHYS4191) must be taken in Level 4.

Professional accreditation

66. MSci Biology and Chemistry: This programme is accredited by the Royal Society of Chemistry for students entering Level 1 up to and including October 2013 as satisfying the academic requirements for the award of Chartered Chemist (CChem) for holders of first or second class honours degrees.
67. MSci Chemistry and Physics: This programme is accredited by the Institute of Physics for five years from February 2009.
68. MSci Mathematics and Physics: This programme is accredited by the Institute of Physics for five years from February 2009.