Materials Science Information Sheet for entry in 2016

Materials science is an interdisciplinary subject, spanning the physics and chemistry of matter, engineering applications and industrial manufacturing processes.

Materials Science at Oxford

Modern society is heavily dependent on advanced materials: lightweight composites for faster vehicles, optical fibres for telecommunications and silicon microchips for the information revolution. Materials scientists study the relationships between the structure and properties of a material and how it is made. They also develop new materials and devise processes for manufacturing them. Materials Science is vital for developments in nanotechnology, quantum computing and nuclear fusion, as well as medical technologies such as bone replacement materials.

This diverse programme spans the subject from its foundations in physics and chemistry to the mechanical, electrical, magnetic and optical properties of materials, and the design, manufacture and applications of metals, alloys, ceramics, polymers, composites and biomaterials. This work is supported by excellent laboratory and teaching facilities.

In a course taught partly by the Saïd Business School, the programme also offers an opportunity to develop an understanding of entrepreneurship (learning how to write a business plan, raise capital and start a company). There are also voluntary options to learn a language .

The Oxford Materials degree includes the special feature in its fourth year of an eight-month full-time research project, when you join a research team here at Oxford in one of the strongest Departments of Materials in the UK or, occasionally, at an overseas university or in an industrial laboratory (additional costs may be associated with a project outside Oxford). Significant scientific publications sometimes result from these projects. You will learn how to break down a complex problem, design an experiment or model, manage a project and communicate your results. These research skills are transferable to many career paths and are valued highly by employers.

The current MEng degree is accredited by the Institute of Materials, Minerals and Mining (IOM3) on behalf of the UK Engineering Council, towards the achievement of Chartered Engineer status. Reassessment of the programme by the IOM3 is expected to take place in 2015; the outcome will determine the accreditation status of the programme for those cohorts of students commencing their studies in the studies in the period October 2015 to October 2019.

Work placements/international opportunities

Students are encouraged to undertake a voluntary summer project in industry or a research laboratory. Recent locations for overseas summer projects have included Beijing, Tokyo, Krakow, Santa Barbara and Boston.

A voluntary industrial tour to an overseas destination is organised in most Easter holidays. Recent destinations include Beijing, San Francisco, Milan and Krakow.

Years 1–3

There are three terms in the Oxford academic year, each eight weeks long. Students usually arrive a week early in the first term of their first year for welcome and induction activities. During years 1 and 2, the work is divided between lectures (about ten a week), tutorials/classes (about two a week), and practicals (two or three afternoons a week). Typically the work for each tutorial or class is expected to take six to eight hours.

Year 3 starts with a two-week design project, and about eight lectures and two classes/tutorials a week for the first two terms. The first two weeks of the second term of year 3 are devoted to a coursework-based module chosen from two options: Characterisation of materials or Materials modelling. The third term is set aside for revision.

Year 4: Extended terms

The fourth year is entirely devoted to research - a unique feature of the Oxford course - consisting of a full-time research project under the supervision of a member of the academic staff. This final year has three extended terms of 12 to 13 weeks and is 37 weeks in total. You will learn how to break down a complex problem, design an experiment or model, manage your time and project, maintain systematic records, present your work orally and write a substantial report. These research skills are transferable to other career paths and are valued highly by employers. Significant scientific publications sometimes result from these projects.

1st year	
Courses • Structure of materials • Properties of materials • Transforming materials • Mathematics for materials science • Crystallography • Practical work • Foreign language (optional)	**Assessment** First University examinations: Four written papers; continual assessment components equivalent to a fifth paper
2nd year	
Courses • Structure and transformation of materials • Electronic properties of materials • Mechanical properties • Engineering applications of materials • Foreign language (optional) • Supplementary subject (optional) • Mathematics • Practical work	

• Industrial visits • Entrepreneurship course • Industrial talks • Communication skills	
3rd year	
Courses • Materials options courses 1 • Materials options courses 2 • Team design project • Characterisation of materials or Materials modelling (At the start of Year 3 it is possible to transfer to a 3-year BA degree in Materials Science, graduating at the end of Year 3. A student opting to do this takes a smaller set of materials option lecture courses and carries out a literature-based research module. The BA is not accredited)	**Assessment** Final University examinations, Part I: Six written papers; continual assessment components equivalent to a further two papers
4th year	
Courses Research project (full-time) (Students are required to achieve 50% minimum in the Part I assessment in order to progress to Part II) • Foreign language (optional)	**Assessment** Final University examinations, Part II (equivalent to 4 papers): Project/dissertation submitted and assessed; Oral examination of project dissertation

The University will seek to deliver each course in accordance with the descriptions set out above. However, there may be situations in which it is desirable or necessary for the University to make changes in course provision, either before or after registration. For further information, please see the University's Terms and Conditions.

Fees

These annual fees are for full-time students who begin this undergraduate course here in 2016.

Fee Status	Tuition fee	College fee	Total annual fees
Home/EU	£9,000	£0	£9,000
Islands (Channel Islands & Isle of Man)	£9,000	£0	£9,000
Overseas	£22,515	£7,135	£29,650

Information about how much fees and other costs may increase is set out in the University's Terms and Conditions.

Additional Fees and Charges Information for Materials Science

The fourth year is entirely devoted to research - a special feature of the Oxford MEng in Materials Science programme - consisting of a full-time individual research project under the supervision of a member staff. This final year has three extended terms of 12 to 13 weeks and is 37 weeks in total so you will need to budget for higher living costs in the final year, as you will be required to be in Oxford for longer than the standard terms. During the project you will learn how to break down a complex problem, design an experiment or model, manage your time and project, maintain systematic records, present your work orally and write a substantial report. These research skills are transferable to other career paths and are valued highly by employers. On occasion significant scientific publications result from these projects.

Living Costs

Your living costs will vary significantly dependent on your lifestyle. These are estimated to be between £970 and £1,433 per month in 2016-17. Undergraduate courses usually consist of three terms of eight weeks each, but as a guide you may wish to budget over a nine-month period to ensure you also have sufficient funds during the holidays to meet essential costs.

Living costs breakdown

	Per month		Total for 9 months	
	Lower range	Upper range	Lower range	Upper range
Food	£265	£298	£2,384	£2,673
Accommodation (including utilities)	£469	£667	£4,221	£6,002
Personal items	£119	£244	£1,073	£2,187
Social activities	£60	£107	£539	£960
Study costs	£36	£73	£314	£661
Other	£19	£44	£197	£410

Total	£970	£1,433	£8,727	£12,894

17 November 2015