

Medicine



LENGTH OF COURSE

6 years – 3 pre-clinical, 3 clinical

MINIMUM A-LEVEL GRADE REQUIREMENTS

A*AA

A-LEVELS REQUIRED

Chemistry compulsory, Biology highly recommended + 1 other science/maths

ADMISSIONS TEST

BMAT – split into 3 sections:
Section 1 - critical thinking, data analysis, problem solving.
Section 2 - GCSE level science and maths.
Section 3 – short essay (<1 page)

COURSE DESCRIPTION

The Medicine course at Oxford provides a well-rounded intellectual training with particular emphasis on the basic science research that underpins medicine. It retains a distinct three-year pre-clinical stage that includes studying towards a BA Honours degree in Medical Sciences, followed by a three-year clinical stage, where you are trained in the practical skills and applied knowledge to become a competent junior doctor.

APPROXIMATE NO. OF CONTACT HOURS PER WEEK

Tutorials: 3-4hrs average, generally 1 hour each spread across the week (depends on tutors scheduling)

Lectures: Around 10 a week, varies between term, year, and depending on practicals

Labs: 2-3 per week

Seminars/classes: Around 2-3 a term (8 week terms) in 1st and 2nd year (not including medical statistics that are weekly starting from second term of 1st year). One seminar a week in 3rd year.

TUTORIAL TESTIMONIAL

Tutorials are run by colleges in groups of 2-6, often with college fellows or lecturers that are world leading researchers in the field that is being taught. Students are usually expected to have written an essay for most if not all tutorials in the week (2-3 essays a week). In some cases, such as anatomy tutorials, students are expected to read up themselves in preparation for the tutorial without having to write an essay. Tutorials are an opportunity to learn content taught in lectures to a much higher level, learning processes in far greater detail, and beginning to explore experimental and clinical evidence underlying aspects of medical science. They may seem intimidating at first as the small groups make it difficult to shy away from the discussion, but even minimal preparation can make these a highly rewarding and enriching learning experience, where you are taught to think critically and understand not just what happens in the body and how, but why it happens and the significance of it in a clinical setting rather than merely rote memorising facts, allowing students to develop intellectually over the three years, and ensure that they are on top of their work throughout the year.

LAB PRACTICALS

- Histology (1st year)/Pathology (2nd year) - involve microscopy and looking at samples to understand tissue structure in the normal state then in the diseased state, in addition to microbiology practicals in 2nd year.
- Dissection room – following anatomy lectures, the dissection room gives an opportunity to look at cadaveric specimens under the guidance of a demonstrator, followed by living anatomy and computer-based learning to look at scans and learn external anatomical landmarks on each other.
- Physiology and pharmacology practicals – these practicals involve taking recordings from live tissues e.g. rat hearts, guinea pigs, rat uterus and exposing them to different types/concentrations of drugs to observe their effects that are taught in lectures first hand. Some practicals also involve yourself or your peers as the subject e.g. ECG practicals, exercise/CO₂ consumption.

1ST YEAR

4 modules (3 large 3-part modules, 1 small 2-part module):

- Organisation of the Body (histology, anatomy, embryology, endocrinology, and cell biology) – Part A (75-minute computer based multiple choice questions), Part B (2 hours for 3 essays out of a choice of 10), Part C (Satisfactory practical record).
- Physiology and pharmacology - electrophysiology (nerve and muscle), cardiovascular, respiratory, renal, and gut physiology, and pharmacology. Part A, B, and C as above.
- Biochemistry and medical genetics (Metabolism, molecular genetics, medical genetics, blood). Part A, B, and C as above.
- Medical sociology – very short course – one 1 ½ hour exam – 3 short answer questions out of choice of 5, and 2 short essays out of choice of 5.

2ND YEAR

4 modules (3 large 3-part modules, 1 small 2-part module). Part A, B and C in 3-part modules same as first year, except for part B being 3-hour exams for 3 essays out of a choice of 10 instead of 2hrs.

- Applied physiology and pharmacology (integrated/applied form of first year physiology/more clinically relevant) – electrolyte homeostasis, physiological challenges (e.g. altitude, temperature, exercise), cardiovascular disease, respiratory disease and anaesthesia, applied metabolism, reproduction
- Neuroscience – neuroanatomy, neurophysiology including: sensory systems (e.g. vision, audition), motor systems, hypothalamus, higher cerebral functions (e.g. memory, emotion), neurobiology of psychiatric disease/neuro/psychopharmacology
- Pathology – the immune system: (innate/adaptive), inflammation (acute, chronic), and immune disorders (immune deficiency, autoimmunity). Infectious disease/microbiology (bacteriology, virology, parasitology, mycology). Epidemiology/vaccination. Neurodegenerative disease. Cancer. Cardiovascular pathology.
- Psychology for medicine – very short course – one 1 ½ hour exam – Part A consists of 30 multiple choice questions, Part B – one essay out of choice of 5 (all in one written paper)

Medical statistics: Starting in Hilary (second term) of first year to Hilary term of 2nd year, there is a medical statistics course with weekly classes. Examined in both years via coursework and a 45-minute computer-based multiple-choice questions exam.

Patient doctor course – 8 visits to a local GP clinic spread throughout 1st/2nd year, each visit will involve patients suffering from illnesses relevant to a topic being learned in lectures/tutorials at the time.

3RD YEAR

3 parts – entirely science/research based giving opportunity to specialise. Note – this format is due to change in the coming years (details not fully confirmed)

- Research project (25%) – 8 weeks approx. in summer following second year (which ends in early May) – huge variety of projects (lab-based, patients, human subjects, or analysis) – presented via dissertation and viva.
- Specialist option examined with 3 3-hour written papers (20% each). Options are:
 - o Neuroscience – 10 themes e.g. sensory processing, neurodegenerative disease
 - o Cardiovascular and Respiratory – 8 themes e.g. cardiac arrhythmias, fluid and circulation
 - o Infection and Immunity – 8 themes e.g. inflammation biology, HIV
 - o Molecular medicine – 8 themes e.g. Gene regulation, Heart development
 - o Cellular physiology and pharmacology – 8 themes e.g. brain signalling, cellular sensingPaper 1 – 3 questions, maximum 1 question can be answered per theme with choice of 3 questions per theme.
Paper 2 – synoptic paper integrating themes (2qs must be answered out of a choice of 5 per option).
Paper 3 – Critical analysis (given a primary research paper relevant to option to analyse, critique, and build upon)

Principals of clinical anatomy: In preparation for clinical school, third years then complete a 3-week course, examined at the end of each week after teaching via lectures and classes in the dissection room.

4TH, 5TH, 6TH YEAR

Years 4-6 are entirely clinically oriented, predominantly consisting of clinical rotations examined with OSCE's and written papers. These are supplemented with some lecture-based teaching and classes. For details visit:

<https://www.medsci.ox.ac.uk/study/medicine/clinical/course-structure>

PERSONAL STATEMENT TIPS

- Don't make it a list of achievements and experience, pick a one or two examples from your work experience, volunteering, books read, and extracurricular activities and reflect on them and what you gained from them. Don't be tempted to just show off with quantity.
- Make it clear you've understood the challenges of medicine as a career, both intellectually and emotionally (through your work experience and further reading), and then show evidence that you can cope with this with your volunteering and extracurricular activities.
- Don't be over the top with your opening paragraph and exaggerate to try and stand out. Avoid the use of big words just for the sake of looking smart, and mix up between complex, compound, and simple sentence structures. Maybe get an English teacher in your school to check your grammar and spelling, make sure it's flawless as mistakes can reflect badly and show carelessness.
- Make sure your personal statement has a clear structure and theme for each paragraph e.g. motivation to study medicine – work experience – science interests – volunteering – extracurricular achievements/skills.
- Oxford love to see someone who is interested in reading further beyond their biology science syllabus, so pick a topic you like and take a deep dive into it in your school library/the internet, show this in your personal statement, and be ready to discuss it at interview!

INTERVIEW TIPS

- Make sure you've actually read anything you've claimed in your personal statement and go through any medical terms/procedures and make sure you know the basics relating to the topic, as this will give you a foundation to answer questions if they pick on stuff in your personal statement. Basically, go through line by line of your personal statement and think/ask others what you could be asked relating to it.
- You will never be expected to know the answer to everything, and a know-it-all is really not what the interviewers are looking for. The purpose of the interview is to show that you can use your basic A-level knowledge and apply it to try and find an answer to a question you don't already know the answer to, and then use any hints and information given to build a bigger picture. Think out loud by explaining how you're reaching your answer and what your logic is and how you're using your basic science/maths knowledge to try and work out a foreign concept they've asked you about. A great way to practise this is partnering up with anyone you know is applying to Oxbridge medicine and ask each other questions you came across when doing further reading to see if you can work out how something in the body works building on A-level knowledge, this will be a great exercise to think on the spot.
- Take a moment to think about the question even if you immediately know the answer as blurting things out will come across quite annoying and from speaking to tutors, they love it when they can see the question is really being thought about. Remember that the tutors are also human and want someone they can get along with and crucially, someone who is "teachable," so relax and be friendly, and try and show your passion for medicine/science (without being too fake of course!).
- Part of being teachable is not being afraid to ask questions when things aren't making sense – if they ask a question that you don't understand, ask them to clarify what they mean and get them to guide you, work with them on coming up with an answer.
- Try and enjoy it! – yes it can be stressful but it's a very unique experience and one you'll remember for life, so try and relax and take it more as a conversation rather than an examination.

BMAT TIPS

- Practice is key! For section 1, the most important way to prepare is doing the past papers. Use the official BMAT and TSA section 1 papers to practice the critical thinking style questions as it is a completely different style of question than you will be used to from A Levels. Make sure you practice under timed conditions.
- For section 2, use the online CGP book that goes through the content that can come up in this section as it is meant to be GCSE level science, however, it may be harder depending on which exam board you used.
- Start early! You will be juggling A Levels and applications at the time of the BMAT so make sure you have enough time to prepare. Consider starting in the summer before the start of Year 13.
- Spend more time preparing for sections 1 and 2 as they are weighted more heavily than section 3.

ONE THING I WISH I KNEW WHEN I WAS APPLYING

Oxford isn't this crazy place where everyone is extremely intelligent and where the interviewers are out to give you a hard time. This is far from the truth and thinking this way can create a mental block and ruin your confidence in interviews. Remind yourself of your strengths and achievements, and block out thinking about other applicants, as you can only control what you do. The next step in your application is the most important one, whether it be personal statement, BMAT, or interview, so stay focused and optimistic. Also, remember that getting in also involves an element of luck, and whether you get in or not doesn't define whether you're good enough, so don't become too emotionally invested. Whatever happens, Allah has chosen it as it is the best outcome for you.

Example Timetable

FIRST YEAR MEDICINE (First BM Part I)

MICHAELMAS TERM 2017

WEEKS 1 to 4

MSTC ROOMS

DR - Demonstration Room on 3rd (top) floor
3a: 3a (3a/b) - Seminar rooms on 3rd (top) floor
CAL - Computer Lab on 2nd floor
C2 - Wet lab classroom on 2nd floor
C1 - Wet lab classroom on 1st floor
LT - The Goss Lecture Theatre (near reception)
UGa, UGc - Seminar rooms on Upper Ground Floor
UGb, UGb - Seminar rooms on Lower Ground Floor

OTHER ROOMS

Phy - Large Lecture Theatre, Sherrington Bld
Pha - Dept. of Pharmacology, Mansfield Road
Shr Rm - Sherrington Room, 2nd floor, Sherrington Bld
Brd Lb - Broadbent Lab, Exp Psychology Bld
Bloc. Lab. - Biochemistry Teaching Lab, Mansfield Rd

Course Teaching primarily for:-

G Subject 1: Organisation of the Body
P Subject 2: Physiology & Pharmacology
B Subject 3: Biochemistry & Medical Genetics
M Subject 4: Population Health 1: Medical Sociology

BD Double badged lecture.
PD Double badged lecture.
MB Double badged lecture.

Week	Time	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	Time	Wk
1	9.00	Intro to Medicine: First year / Professionalism (JSHT/DJTV) LT	L: Intro to Biochemistry (MJAF) Phy	L: Organisation of the body (JSHT) LT	L: Proteins 1 (SLN) Phy	L: Proteins 2 (SLN) LT	9.00	1
	10.00	L: Intro to Physiology (DJP) LT	P: Red blood cells (RJW) (Grps 1 - 4) C1	P: Red blood cells (RJW) (Grps 5 - 8) C1	Immunisations (Grps 1 & 2) At Occupational Health. See MSTC noticeboard for exact times.	L: Introduction to imaging (NRM) LT	10.00	
	11.00		DBS Check (Grps 5, 6, 7, & 11) See MSTC noticeboard for times.	DBS Check (Grps 3, 9, 10 & 12) See MSTC noticeboard for exact times.	L: Cell structure (RW-M) LT	P: Studying cells & tissues (Grps 1 - 6) (RW-M) C2	11.00	
	12.00	L: 'The stories patients tell' (BWIMMo) LT			L: Membrane struct. & function (ABP) LT		12.00	
	2.00			S: Cell-Biology for non-biologists (DJTV) Seminar Room 3		P: Studying cells & tissues (Grps 7 - 12) (RW-M) C2	2.00	
2	3.00						3.00	2
	4.00						4.00	
	9.00	L: Protein Diversity (SLN) Phy	L: Action potentials 1 (KJB) Phy	Immunisations (Grp 12) At Occupational Health. See MSTC noticeboard for exact times.	L: Krebs cycle and mitochondria (DJT) Phy	L: Enzymes (SLN) LT	9.00	
	10.00	Immunisations (Grp 3) At Occupational Health. See MSTC noticeboard for exact times.	P: Red blood cells (RJW) (Grps 9 - 12) C1	Immunisations (Grps 5 & 7) At Occupational Health. See MSTC noticeboard for exact times.	L: Skeleton (MFG) LT	P: Cells & tissues: connective tissue (RW-M) (Grps 1 - 8) C2 then at 11.30 CAL (Grps 7 - 12) CAL then at 11.30 C2 (Interactive session during CAL)	10.00	
	11.00	L: Intro to metabolism (LCH) LT	DBS Check (Grps 1, 2, 4 & 8) See MSTC noticeboard for times.		L: Connective tissue (RW-M) LT		11.00	
3	12.00	L: Ion & Solute Transport (RJW) LT	L: Cytoskeleton & cell junctions (RW-M) LT		L: Control of cell growth (CW) LT		12.00	3
	2.00	L: Membrane potentials (KJB) LT			Immunisations (Grps 4 & 6) At Occupational Health. See MSTC noticeboard for exact times.		2.00	
	3.00						3.00	
	4.00						4.00	
	9.00	P: Human ulnar nerve (EM) (Grp 5 & 6) C1	P: Human ulnar nerve (EM) (Grp 1 & 2) C1	Immunisations (Grps 8 & 11) At Occupational Health. See MSTC noticeboard for exact times.	L: Joints & movements (MFG) LT	L: Control of enzyme activity (SLN) Phy	L: Muscle tissues (MM) LT	
4	10.00	P: Human ulnar nerve (EM) (Grp 7 & 8) C1	P: Human ulnar nerve (EM) (Grp 3 & 4) C1	P: Skeleton (MFG) 10.00 - 11.30am (Grps 1 - 8) DR (+3a/b)		P: Cells & tissues: bone & cartilage (CW) (Grps 1 - 8) C2 then at 11.30 CAL (Grps 7 - 12) CAL then at 11.30 C2 (Interactive session during CAL)	10.00	4
	11.00	L: Intro to Pharmacology (AG) LT	L: Neuromuscular junction (MDG) LT	P: Skeleton (MFG) 11.30 - 1.00pm (Grps 7 - 12) DR (+3a/b)	L: Cell differentiation (CW) LT		11.00	
	12.00	L: Oxidative Phosphorylation (LCH) Phy	L: Action potentials 2 (KJB) LT		L: Bone & cartilage (CW) LT		12.00	
	2.00						2.00	
	3.00						3.00	
4	4.00						4.00	4
	9.00	L: Drug receptors: cellular mechanisms (PT) LT	P: Human ulnar nerve (EM) (Grp 9 & 10) C1	L: Muscle groups (TC2) LT	L: Lipids (SLN) Phy	L: Carbohydrates (SLN) Phy	9.00	
	10.00	P: Human ulnar nerve (EM) (Grp 11 & 12) C1		P: Joints & movements (MFG) (Grps 1 - 6) DR (+3a/b) then at 11.30 CAL (Grps 7 - 12) CAL then at 11.30 DR (+3a/b) (Interactive radiology session during CAL)			10.00	
	11.00	L: Skeletal Muscle (MZ) LT, followed by Intro to Patient & Doctor (MMa) 10am-1.15pm	L: Intro to embryology (CW) LT		L: Birth & death of cells (RW-M) LT	L: Cardiac muscle (MZ) LT	11.00	
	12.00				L: Early embryonic devlp. (CW) LT	L: Intro to nutrition (LH) LT	12.00	
4	2.00				Patient & Doctor course (as notified through colleges)		2.00	4
	3.00						3.00	
	4.00						4.00	

LECTURERS

ABP Prof. Anant Parekh	CJG Prof. Chris Garland	DCIG Dr Deborah Goberdhan	JSHT Dr Jeremy Taylor	MDG Dr Mike Glick	NRM Mr Niall Moore	RW-M Prof. Richard Wade-Martins
AG Prof. Antony Galone	CW Prof. Clive Wilson	EM Dr Ed Mann	KJB Dr Keith Buckler	MFG Dr Mike Glick	PS Dr Pawel Swietach	SLN Prof. Simon Newstead
AJRP Mr Antony Palmer	DJP Prof. David Paterson	FP Dr Frances Platt	KLD Dr Keith Dornington	MJAF Prof. Matthew Freeman	PT Dr Paolo Tammaro	SFG Prof. Stephen Goodwin
AMF Dr Andrea Furger	DJTV Prof. David Vaux	GKB Dr Gary Brown	LH Dr Leanne Hodson	MM Dr Mary McMenamin	RJW Dr Robert Wilkins	SS Dr Shankar Srinivas
BW Dr Sue Wise	DJT Dr Damian Tyler	JFM Prof. John Morris	LCH Dr Lisa Heather	MMo Dr Mital Mohar	RMAS Dr Rebecca Sitasapan	TC2 Mr Tom Cosker

EXAMPLE TUTORIAL SCHEDULE FOR ONE WEEK

Monday: Biochemistry tutorial 5-6pm on Gene regulation – essay titled “How is gene expression regulated? How can this go wrong and what are the consequences?” due 24 hours before the tutorial.

Thursday: Physiology and pharmacology tutorial 3-4pm on the action potential– essay titled “How is the neuronal action potential generated?” due 24 hours before the tutorial.

Friday: Anatomy tutorial 6-7pm on vasculature of the upper limb – no handed-in work due before the tutorial but expected to read up to come prepared for discussion. Sometimes given clinical problems sheet to answer and return to discuss in the next tutorial.

Note: this is a personal “typical” week and can vary greatly between colleges.

Recommended reading

Student BMJ

- “The spark of life” by Frances Ashcroft
- “Being Mortal” by Atul Gawande
- “When breath becomes air” by Paul Kalanithi
- “Do No Harm” by Henry Marsh
- “The emperor of all maladies: a biography of cancer” by Siddhartha Mukherjee
- “Genome” by Matt Ridley
- “Gene” by Siddhartha Mukherjee
- “The epigenetics revolution” by Nessa Carey
- “Medical ethics, A short introduction” - **Highly recommended**

TIP:

Pick a book that’s related to something in your work experience that you mentioned in your personal statement, or something that interests you in A-levels to take further. This can link nicely in your personal statement and make it flow well and show your passion for the subject whilst being a point of discussion in interviews where you can be tested on your strengths. One book that you’ve read thoroughly and can reflect on is enough.