

6TH Form UCAS Book

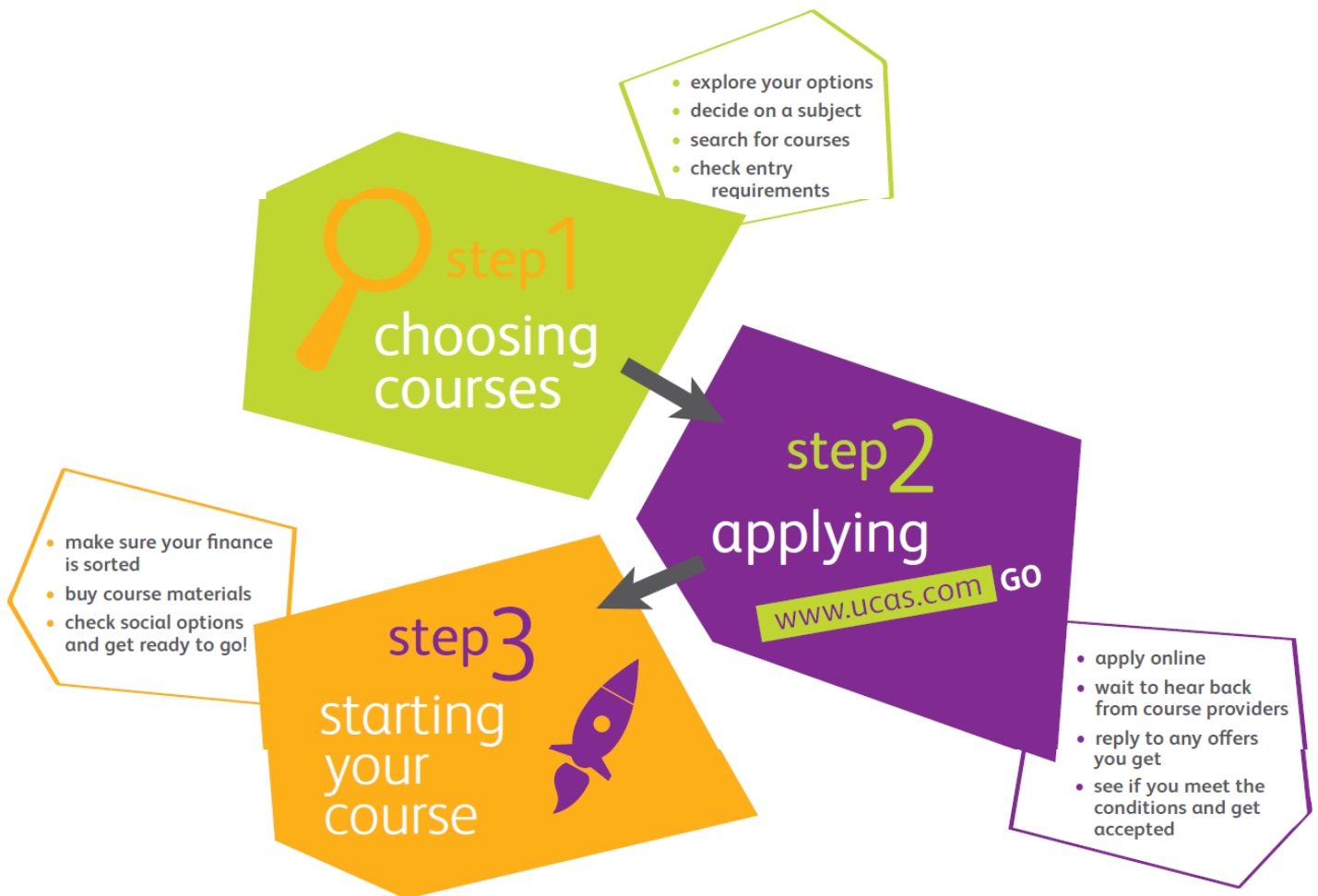


A guide to Physical Sciences & Mathematics

A personalised booklet for your University
course

THREE STEPS TO APPLYING

UCAS



Depending on what course you're applying for your application will need to be with us by:

- **October** for the universities of Oxford, Cambridge or any professional course in medicine, dentistry and veterinary medicine/science
- **January** for the majority of courses
- **March** for some art and design courses

So leave yourself plenty of time to do everything!

Applications for UCAS courses

15 October 2012

Deadline for receipt at UCAS of all applications, including the reference, for all medicine, dentistry, veterinary medicine and veterinary science courses and for all courses at the universities of Oxford and Cambridge.

15 January 2013

Deadline for receipt at UCAS of all applications, including the reference, for all courses except those with a 15 October deadline, and art and design courses with a 24 March deadline.

Application completed with up to five choices.

School or college adds reference, or applicants not applying through a UCAS centre add referee's details. Reference added and application sent to UCAS.

UCAS sends acknowledgement to applicant, who checks it carefully.

UCAS sends copies of application to all universities and colleges chosen.

Each university or college makes decision on application.

Offer is made. UCAS sends details to applicant.

Unconditional offer.

Conditional offer based on examination results.

Decisions received from all chosen universities and colleges. Applicant replies to offers using Track at www.ucas.com or by calling our Customer Service Unit.

Applicant declines offer.

Applicant may accept one firm and one insurance place.

Examination results published.

University or college does not confirm place.

University or college confirms place.

APPLICANT ACCEPTED
Firm acceptance commits applicant to this university or college.

ADJUSTMENT

If applicant achieves better grades than required for their firmly accepted offer they may look for an alternative course that has places available whilst still holding their original choice.

24 March 2013

Deadline for receipt at UCAS of all applications, including the reference, for some art and design courses except those listed with a 15 January deadline.

30 June 2013

Applications received after 30 June are entered in Clearing.

Unsuccessful application.

All applications declined or unsuccessful.

EXTRA

CLEARING

Extra and Clearing are UCAS services that help an applicant, without an offer of a place, to continue their application to find a suitable higher education course.

Do's & Don'ts on your application

Do use your best English and don't let spelling and grammatical errors spoil your statement.

Do show that you know your strengths and can outline your ideas clearly. Use words you know will be understood by the person reading your statement.

Do be enthusiastic – if you show your interest in the course, it may help you to get a place

Do expect to produce several drafts of your personal statement before being totally happy with it.

Do ask people you trust for feedback

Do show you are up to date with development in your subject by reading the newspaper or watching the news

Don't exaggerate if you do you may get caught out in an interview when asked to elaborate on a recent event in that field

Don't just rely on a spell checker as it will not pick up everything, proof read as much as you can.

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Do show you are up to date with development in your subject by reading the newspaper or watching the news

Don't leave it to the last minute your statement you will seem rushed and important information will be left out

Don't spend ages trying to come up with a perfect, snappy first line, write anything and return to it later

Action Words to use

Achieved

Developed

Assembled

Established

Heightened

Broadened

Encouraged

Illustrated

Balanced

Enhanced

Informed

Created

Handled

Influenced

Compiled

Demonstrated

Corrected

The Russell Group

Those included in the Russell group are:

University of Birmingham

University of Bristol

University of Cambridge

Cardiff University

University of Edinburgh

University of Glasgow

Imperial College London

University of Leeds

University of Liverpool

London School of Economics & Political Sciences

University of Manchester

Newcastle University

University of Nottingham

University of Oxford

Queen's University Belfast

University of Sheffield

University of Southampton

University College London

University of Warwick

Newcastle University

The Russell group universities are considered to have the best teaching standards of all the Universities, but they are not always the best for your course.

Personal Statement Examples

Aeronautical Engineering

Today's engineers face enormous challenges, such as global warming, burgeoning population growth and natural resource depletion. The UK needs more engineers with creativity and ingenuity to design the answers. I believe that I have the potential to be one of these engineers and that university will give me the skills needed to channel my ideas into the aircraft of the future.

I have always been intrigued by aerospace engineering and am currently training for a private pilot's licence; my imagination is captivated when the wheels of the plane in which I am flying lift off the runway and I find myself seemingly suspended in the air. During numerous flights, I have examined parts of the aircraft and devised ways in which its design could be improved, for example to improve its aerodynamics. I have found it particularly interesting how Airbus has engineered winglets on the tips of their wings to reduce vortex drag and to maximise efficiency. My interest in this topic has been reinforced by my passion for Mathematics and Physics. From reading "Mechanics of Flight" by A.C.Kermode, I have learnt how these subjects can be applied to the principles of flight.

In the summer of 2013, I organised a work experience placement at RAF Coningsby where I worked in the Typhoon Maintenance Hangar. I was given the responsibility of carrying out mechanical tasks on the Typhoons, along with participating in various

functional tests. I found myself questioning how different parts of the Typhoon work, how much force they can withstand and general questions relating to the aircraft design and engineering. Being up-close to engineering masterpieces was absolutely incredible and influenced me to apply for this course.

In school I am a Prefect; supervising younger students and being a positive role model. I also hold the position of a Cub Group's Young Leader, where I organise games and activities. This requires leadership and community commitment. I have volunteered at Caernarfon Airport museum where I have had the opportunity to work around some historic aircraft, and see how the engineering of aircraft has progressed from the De Havilland Vampire T1 to the Harrier Jump Jet. Other activities I enjoy outside of school include swimming, cycling and working in a newsagents and a local garden centre where I am responsible for handling cash and locking up.

These extra-curricular commitments demonstrate my motivation, my ability to balance my time between work and leisure and that I can work well with others. I am also hoping to attend a work experience placement at Airbus in the near future. As the nominated map-reader during my Duke of Edinburgh expeditions, I demonstrated an aptitude for problem solving as I had to modify the planned route. As a team, we motivated those finding the extra distance difficult and discovered solutions as a group, such as redistributing our supplies, which made the whole experience more efficient and ultimately more enjoyable. I have also proven to be a good team player and leader during an Army insight work experience week. My strong communication skills allowed me to portray my ideas clearly and precisely. Working with a group of five people to complete complex tasks in strict time limits taught me about the importance of teamwork and how to work under pressure.

I aim to one day work for a world leading aircraft manufacturer, such as Airbus or BAE Systems. Sitting in a state-of-the-art aircraft and being able to say "I was part of the production of this aircraft" would be a privilege and my greatest goal met. From the A300 in 1972 to the technological breakthrough of the A380 in 2005, Airbus has revolutionised air travel. I feel inspired by "The Future by Airbus" report, particularly Airbus' "Smarter Skies "2050 vision. It links with my own ideas for future air travel and excites me that these could soon become reality. I am eager to play a part in the development of more efficient, Comfortable and eco-friendly aircraft.

Physics with Astronomy

Every little boy is fascinated by Space; I was no different. Over the last ten years I have been captivated by documentaries about the origins and vastness of the universe. However, it is only since beginning my A-Level studies that I have really begun to appreciate the complexities of Physics. Even though our knowledge has developed considerably since the time of Galileo and Newton, the fundamental questions still remain unanswered. I am particularly interested in Stephen Hawking's work on Black Holes; his lecture 'Into a Black Hole' is one of my favourites. I have also recently attended a fascinating lecture on 'Exo Planets' at Warwick University. For my Physics A-Level coursework I have chosen the title of 'What are Black Holes and how are they created?' in order to enhance my knowledge of this subject even further.

I have applied to attend a five day summer school course studying Astrophysics at Liverpool John Moores University. Completing this course will give an insight into the

high level of work that I will receive in University and to what University life is truly like. I hope to be shown the techniques needed to succeed in University and I wish to gain the experience that will fully prepare me for my degree.

I am aware that through studying for a Physics degree I will face challenges and problems for which there will not be a simple solution. Through the study of A-Level Physics I have developed the ability to think logically about problems and am now better able to apply the correct equation or method to find a solution. For my coursework I gave a presentation on the physics behind the composite material, carbon fibre. This helped greatly with my confidence and ability to present information clearly. In Physics, I enjoy the intellectual challenge of understanding the theory behind topics such as orbits and circular motion, but equally enjoy the challenge of finding mathematical solutions. In addition, I have enjoyed studying Geography and through completing essay style questions, have become adept at developing well researched, coherent arguments. My study of Mathematics has proven extremely valuable within aspects of Physics. For example, during the study of the conservation of momentum the skills I have acquired through mathematics have aided me in tackling problems.

My passion for Physics has always been encouraged by my parents, who themselves are interested in Science. With help from my father I have investigated the mechanical processes of engines; I have assembled several small two stroke engines and found the experience challenging yet captivating. During the process I altered and replaced certain parts such as the stator plate within the engine compartment. It demonstrated to me how even minor changes can have a significant effect on performance.

Within school I have recently been elected House Captain. My responsibilities include organising whole school competitions and motivating students from lower years to achieve success. It is essential for me to be organised, determined and to maintain communication with all members of the school, through assemblies. This role has helped me to communicate with large audiences confidently. Outside of school I regularly attend the gym. Through exercise and training I have gained self-motivation, this is a quality that I have been able to apply to my studies. I have recently completed the Silver Duke of Edinburgh Award; this was a very demanding yet rewarding experience. It was essential to work effectively as a team and to encourage others when they were struggling. I also had to manage my time carefully and think logically under pressure.

The prospect of studying Physics at university is extremely exciting and I look forward to becoming involved in university life.

League Table

Mathematics

Rank 2015	Institution
1	St Andrews
2	Cambridge
3	Oxford
4	Warwick
5	UCL

Physics

Rank 2015	Institution
1	St Andrews
2	Oxford
3	Birmingham
4	Hertfordshire
5	Heriot-Watt

Open Day Case Studies

Further Mathematics

Name: Mitchell Walker

Open Day at: Bangor

Did you do any research before the Open Day?

No

What was the worst aspect of the day?

Going over the same knowledge that I already knew. e.g. series and sequences

What was the most enjoyable aspect of the day?

The complex numbers I was introduced to.

Did the Open Day change your opinion of the University?

No my opinion stayed pretty much the same.

Any advice you would give to someone going to an Open Day?

Go for it if you like the subject. Show how passionate you are about it and how keen you are to do it ask the lectures questions and just be positive.

Any questions you suggest asking?

If you have any query ask them they will be happy to help.

Engineering

Name: Krzysztof Korniak

Open Day at: Bangor Uni

Did you do any research before the Open Day?

Yes we looked at the course, what it requires and what is taught

What was the worst aspect of the day?

The transport to and from the day.

What was the most enjoyable aspect of the day?

Walking around the department looking at the equipment available.

Did the Open Day change your opinion of the University?

Yes I now really want to study there.

Any advice you would give to someone going to an Open Day?

Make sure you know the course your interested in.

Any questions you suggest asking?

As many as you can.

Interviews

Astrophysics

Name: Hadyn Ballinger

University applied for: University of York

Course applied for: Physics with Astrophysics (Mphys, 4 years)

What was your preparation for your interview: Revised some maths – e.g. proving
“ $\sin^2(\theta) + \cos^2(\theta) = 1$ ”

The questions asked in the interview:

- What is colour?
- What colour is the sun?
- Why does the sky appear blue?
- Asked about why I chose York and what my interests are

What did you wear to the interview?

School trousers, school shoes and a shirt (no tie). Most people wore jeans and a shirt – smart, casual dress

What was the hardest aspect of the day?

The tour – it was freezing!

What was the most enjoyable aspect of the day?

Visiting the astronomy garden

Did you get an offer on the day?

Yes (later confirmed through UCAS)

What one piece of advice would you give?

Don't worry about the interview, they won't base their final decision on it

Mathematics

Name: Kristian Cook

University applied for: Manchester

Course applied for: Mathematics

Preparation for your interview:

Prepared answers to questions I thought they may ask.

Questions asked in the interview. Portfolio:

- Why I like maths
- Favourite topic in my A level course
- Hobbies
- Mathematics related question

What did you wear to the interview?

Jeans and shirt

What was the hardest aspect of the day?

Maths related questions

What was the most enjoyable aspect of the day?

The interview was quite informal, it was more like a chat. Getting to talk about accommodation was enjoyable.

Did you get an offer on the day?

The day after.

What one piece of advice would you give?

Be prepared and calm. When asked the maths question they don't mind if you get it wrong to just try your best.

Career Case Study.

Job Title: Physics teacher

Qualifications (GCSE and A Level)

GCSE: Science double-A,A

A level: Physics A

Maths-A

Maths-A

Eng Lang/Lit-A,A

Business-B

Business-B

General Studies-C

Geog-B

ICT-A

DT-C

Higher Education. (University and Course)

Astrophysics and maths-2:1 Keele University

PGCE secondary studies- Bangor University

Jobs since University

Teacher

What skills or qualities are needed for this role?

Good communication skills

Good organisation skills

Interested in helping others

Any advice you would give to someone looking to work in this field of Industry?

Study a subject you enjoy

Try to undertake relevant work experience