

Message from CTY Ireland

We are disappointed not to be seeing students face to face this summer but unfortunately circumstances have dictated that this year we have to run our classes online. Fear not though as we have lots of amazing teachers who have been working very hard to produce some online courses for high ability students. Many of these teachers are former CTYI students and all of them want to produce work that will be enjoyable to all talented students.

Every student who attends this programme has curiosity to find out more information. This can be achieved through reading or doing and making things themselves and we believe that these courses will allow us to capture some of this and let the students thrive in an environment where knowledge is valued and opinions are welcomed.

We encourage you to join us for online CTYI this year and help these students fulfil their potential

Dr. Colm O'Reilly

CTYI Director

How classes will work

As the courses will be online they will be taking place for one hour a day over the course of a week. There will be two different time slots in the morning and two more in the afternoon, so students can sign up for either one, two, three or four classes per day for the week. Students may of course also sign up for more than one week. We find that online classes work better when students of a similar age are in the same group so there will be slots for

- **Second and third class (together),**
- **Fourth class,**
- **Fifth class**
- **Sixth class**

The course eligibility is based on the class your child has just completed and not the one he/she is going into in the coming academic year. The cost of one course will be €75 per week (plus an Eventbrite fee of €5.93 per course). **To participate you will need a computer/tablet with a webcam and functioning sound system and a working wifi connection.** CTYI takes Child Protection very seriously, and as such, each zoom class will have settings which ensure that people who are not students cannot join the class. Prior to the classes starting we will send out a document on how to use zoom for the classes, which we would ask you to review. Parents may be asked in advance to organise some materials for their child. These items will normally be things that can be found around the home.

To participate you will need a computer/tablet with a webcam and functioning sound system and a working wifi connection.

Application Process

- These online courses are available to children in 2nd - 6th class only.
- If you are interested in applying for one of these courses, please follow the link provided below each timetable, which will take you to our Eventbrite listing.

- As our team are all working remotely at the moment, we will not be processing application forms and payments as usual.
- To apply you need simply enter **your details & your child's details** and pay with credit/debit card for your chosen course through Eventbrite.
- Course places are limited & are on a 'first come, first served basis' so please apply as soon as possible to avoid disappointment.
- Tickets on Eventbrite will close as soon as a course is full.
- The email address you use for eventbrite will be the email address that will be used to communicate class details such as the Zoom link which allows you to enter the class.

Refund Policy

- No Refund will be made to any student who is assigned one of their course choices but decides not to participate.
- Students who start a course but do not complete it are not eligible for a refund.
- **No refunds or credit notes will be given to anyone who makes a mistake on Eventbrite by signing up twice, choosing the wrong course or incorrectly signing up for a class that is not in the age range for your child.**
- Fees are non-transferable.
- CTYI reserves the right to cancel or alter any course if, due to unforeseen circumstances the course cannot be run economically or efficiently.

Discipline

Students may be **immediately dismissed** from the course for any of the following reasons:**

- Bullying, in person or via social media
- Violating or putting at risk the safety and well-being of any person
- Threatening or intimidating behaviour toward staff or students
- Taking a picture, video or audio recording of a staff member or student without their express permission, including screenshots

Students may be **subject to dismissal** from the course for any of the following reasons (on a case by case basis):**

- Punctuality (applicable to all aspects of the course)
- Bullying, in person or via social media
- Not attending satisfactorily to their academic work, including repeated absence from class
- Abusive language in verbal or written form to students or staff members
- Inappropriate behaviour online
- Using computing facilities for purposes other than assigned course work

**Or for any other reasons which in the opinion of the director are of a sufficiently serious nature to warrant dismissal from the programme.

In Addition

Students may not contact a staff member on any social network unless the account is a registered CTYI one.

Students may not share Zoom class codes or activity codes with any other person.

Students will be sent further guidelines related to their conduct in class before the beginning of the programme

Important to Note

Students who violate programme rules are subject to the disciplinary actions outlined above. No refunds will be made to students dismissed from the programme. Details on CTYI Data Protection and Equality policies can be found on our website
www.dcu.ie/ctyi/CTYI-Policies

Timetables -

Each subject is available for all age groups over the course of the 6 weeks. Please only select based on the class your child is **CURRENTLY** in, not the class they will go into in September. Some classes are duplicated. **They are not follow on courses, so do not sign up for the same course twice.**

2nd -3rd class Timetable

	Week 1 22/6 - 29/6	Week 2 29/6 - 3/7	Week 3 6/7 - 10/7	Week 4 13/7 - 17/7	Week 5 20/7 - 24/7	Week 6 27/7 - 31/7
10am	Horrid Histories - USA	Graphic Design	Horrid Histories - Rotten Rulers & Wild Wars	Board Game Design	Graphic Design	Book Vs. Film
10am	Puzzles and Problems	Animals and Adaptation	Superhero Science	Exploring Engineering	Sports Science	Science of tomorrow
11:30am	Theatre at Home!	Law and Order	Book vs Film	Fantastic Beasts and How to Write Them	Hogwarts; A History	Greek and Roman Mythology
11:30am	The Wonders of Light	Adventures in Chemistry	The Science of Sound	Miraculous Microbes	Medicine	Ireland's Wild History
1:30pm	Folktales, fairy tales, and storytelling	Inside the Frame	Imaginative Storytelling	Poetry and Performance	Ireland's Natural Wonders	Model UN
1:30pm	Discoveries & Inventions	The Brilliant Brain	The Science of Harry Potter	Codes & Ciphers	Puzzles and Problems	Forensic Science
3pm	Model UN	Beginning Your Book	Adventures in Chemistry	The Science of Flight	Beginning Your Book	Codes & Ciphers
3pm	Volcanoes, Earthquakes, & Tsunamis	Forensic Science	Medical Mysteries	Genes & T-Cells	The Science of Flight	The Chemistry of Space

Please click on this link to sign up for 2nd - 3rd class courses: (or copy & paste to your browser)

<https://www.eventbrite.ie/e/106756463456>

4th class Timetable

	Week 1 22/6 - 29/6	Week 2 29/6 - 3/7	Week 3 6/7 - 10/7	Week 4 13/7 - 17/7	Week 5 20/7 - 24/7	Week 6 27/7 - 31/7
10am	Theatre at Home!	Law and Order	Book vs Film	Fantastic Beasts and How to Write Them	Hogwarts; A History	Greek and Roman Mythology
10am	The Wonders of Light	Adventures in Chemistry	The Science of Sound	Miraculous Microbes	Medicine	Ireland's Wild History
11:30am	Horrid Histories - USA	Graphic Design	Horrid Histories - Rotten Rulers & Wild Wars	Board Game Design	Graphic Design	Book Vs. Film
11:30am	Puzzles and Problems	Animals and Adaptation	Superhero Science	Exploring Engineering	Sports Science	Science of tomorrow
1:30pm	Model UN	Beginning Your Book	Adventures in Chemistry	The Science of Flight	Beginning Your Book	Codes & Ciphers
1:30pm	Volcanoes, Earthquakes & Tsunamis	Forensic Science	Medical Mysteries	Genes & T-Cells	The Science of Flight	The Chemistry of Space
3pm	Folktales, fairy tales, and storytelling	Inside the Frame	Imaginative Storytelling	Poetry and Performance	Ireland's Natural Wonders	Model UN
3pm	Discoveries & Inventions	The Brilliant Brain	The Science of Harry Potter	Codes & Ciphers	Puzzles and Problems	Forensic Science

Please click on this link to sign up for 4th class courses: (or copy & paste to your browser)

<https://www.eventbrite.ie/e/106767506486>

5th class Timetable

	Week 1 22/6 - 29/6	Week 2 29/6 - 3/7	Week 3 6/7 - 10/7	Week 4 13/7 - 17/7	Week 5 20/7 - 24/7	Week 6 27/7 - 31/7
10am	Graphic Design	Horrid Histories - USA	Board Game Design	Horrid Histories - Rotten Rulers & Wild Wars	Book Vs. Film	Graphic Design
10am	Animals and Adaptation	Puzzles and Problems	Exploring Engineering	Superhero Science	Science of tomorrow	Sports Science
11:30am	Law and Order	Theatre at Home!	Fantastic Beasts and How to Write Them	Book vs Film	Greek and Roman Mythology	Hogwarts; A History
11:30am	Adventures in Chemistry	The Wonders of Light	Miraculous Microbes	Science of Sound?	Ireland's Wild History	The Chemistry of Space
1:30pm	Inside the Frame	Folktales, fairy tales, and storytelling	The Science of Flight	Adventures in Chemistry	Codes & Ciphers	Ireland's Natural Wonders
1:30pm	The Brilliant Brain	Discoveries & Inventions	Genes & T-Cells	Medical Mysteries	Medicine	Puzzles and Problems
3pm	Beginning Your Book	Model UN	Poetry and Performance	Imaginative Storytelling	Model UN	Beginning Your Book
3pm	Forensic Science	Volcanoes, Earthquakes & Tsunamis	Codes & Ciphers	The Science of Harry Potter	Forensic Science	The Science of Flight

Please click on this link to sign up for 5th class courses: (or copy & paste to your browser)

<https://www.eventbrite.ie/e/106770874560>

6th class Timetable

	Week 1 22/6 - 29/6	Week 2 29/6 - 3/7	Week 3 6/7 - 10/7	Week 4 13/7 - 17/7	Week 5 20/7 - 24/7	Week 6 27/7 - 31/7
10am	Law and Order	Theatre at Home!	Fantastic Beasts and How to Write Them	Book vs. Film	Greek and Roman Mythology	Hogwarts; A History
10am	Adventures in Chemistry	The Wonders of Light	Miraculous Microbes	Science of Sound	Ireland's Wild History	The Chemistry of Space
11:30am	Graphic Design	Horrid Histories - USA	Exploring Engineering	Horrid Histories - Rotten Rulers & Wild Wars	Book Vs. Film	Graphic Design
11:30am	Animals and Adaptation	Puzzles and Problems	Board Game Design	Superhero Science	Science of tomorrow	Sports Science
1:30pm	Beginning Your Book	Model UN	Poetry and Performance	Imaginative Storytelling	Model UN	Beginning Your Book
1:30pm	Forensic Science	Volcanoes, Earthquakes, & Tsunamis	Codes & Ciphers	The Science of Harry Potter	Forensic Science	The Science of Flight
3pm	Inside the Frame	Folktales, fairy tales, and storytelling	The Science of Flight	Adventures in Chemistry	Codes & Ciphers	Ireland's Natural Wonders
3pm	The Brilliant Brain	Discoveries & Inventions	Genes & T-Cells	Medical Mysteries	Medicine	Puzzles and Problems

Please click on this link to sign up for 6th class courses: (or copy & paste to your browser)

<https://www.eventbrite.ie/e/106772681966>

Course Outlines

Adventures in Chemistry

Learning chemistry, you will learn about the elements that compose the world around us. Of course the exciting part of chemistry is learning how these elements interact with each other to create exciting results! From basic atomic and molecular structures, to chemical bonding, to reaction speeds, students will be introduced to the fascinating topics that compose this wonderful subject, and hopefully get to try some out at home!

Animals and Adaptations

Animals can be found on every corner of the planet, from the driest deserts to the highest mountains, even at the very bottom of the ocean. But how do they do it? Animals across the world have developed some remarkable adaptations that allow them to live in the most extreme places. This class will take a look at the importance of adaptation in animal survival, while taking a look at some of the most bizarre creatures on the planet.

Beginning YOUR Book!

Do you fancy yourself as an author? Have you ever dreamed about writing your own book but don't know where to begin? On this course you will be given the tools to write a best-selling story! From crafting captivating characters to devising unexpected plots, you will be shown how to write an exciting first chapter that will have your readers hooked! Whether you want to write a fantastical fairytale, epic adventure, or creative comedy, this course will introduce you to the key ingredients that make for a thrilling tale and set you on your path to becoming the next J.K Rowling! All you need is a passion for story-telling and a wild Imagination!

Board Game Design

Learn about the different components involved in making a board game. Introduce yourself to the main concepts involved in game design: chance, player agency, narrative, objectives, goals, mechanics and rules. Explore the history of board games and their cultural and symbolic importance. Maybe you can even use your newfound knowledge to create a selection of boards games using different resources, themes and game mechanics!

Book vs. Film

You've read the book, you've watched the film and they differ ... dramatically. Libraries are like sweet-shops to film-makers! In this course students will get to look at the process of script writing, story editing, character building, film development - essentially how filmmakers take a piece of text and translate it into a workable, visual masterpiece. Learn how books like Harry Potter or Charlie & the Chocolate Factory transformed to the silver screen!

Codes and Ciphers

Everybody loves cracking codes to solve problems. This course will look at various secret codes that are used widely in society today. Students will get the chance to participate in code cracking games and also to develop their own codes to encrypt their own secret information. This course is a must for people who love solving puzzles and are interested in the magical secrets of numbers and codes.

Discoveries & Inventions

Do you love to create, investigate and problem-solve? Do you enjoy tinkering, building, dismantling and designing? Are you inspired by the innovators and inventors of the past and present? In this fun and fascinating course, we will travel from the ancient to the modern world, exploring the amazing

breakthroughs in science and technology that have changed our lives for ever. If you have a theory to prove or an idea you want to turn into a reality, then maybe this is the course for you!

Exploring Engineering

This course aims to introduce students to some of the core principles underlying the study of engineering. Engineers are important in many things that shape the world around us such as computer chips, rocket science and advanced technology. There will be a practical element to this course, with students constructing their own feats of engineering and looking at how this fascinating topic impacts everyday life.

Fantastic Beasts and how to Write them

Can you really create a chimera? Could you train a dragon, a unicorn, or even a Minotaur? How might you defeat the Undead? How could you capture a shapeshifter? How do you spot a cryptid? And how might you communicate with an alien? In this fun and creative course, students will look at various fantastic creatures and marvellous monsters found in myth, legend, folklore, as well as their modern incarnations in popular culture and even some alignments with actual science. We will travel land, sea, and air, and possibly to other planets, gaining the skills to create our own fantastic beasts and spin equally fantastic tales to accompany them

Folktales, fairy tales and mythology, and the art of modern storytelling.

In folktales, fairy tales, and mythology, we'll look at a range of stories that have been told for centuries. We'll look at: The tales of King Arthur and Merlin.

The plethora of tales about witches, good and bad, from Aoife in The Children of Lir, the witch in Hansel and Gretel, to modern witches - good and bad - like Hermione and Bellatrix Lestrange! The underworld and the afterlife in Greek, Norse, and Celtic mythology, and how it has been reinvented over time by writers, such as J. M. Barrie and his Never Land.

Forensic Science

Every contact leaves a trace! In this course, students will get the chance to learn about fingerprinting, crime scenes and maybe even blood! After this course, you'll see evidence to collect wherever you go! – not for the faint hearted!!

Genes & T-Cells

Understanding genetics is the basis of many fields under the umbrella of human biology and medicine. None more so than that of immunology, the study of the human immune system and its role in keeping you healthy. The key information carrier in the human body is the gene, code detailing all the proteins and compounds needed to keep you alive. If we zoom out from the genetic level we can find cells such as the T-Cell, the key player in cell driven immunity. This course brings you from the ground up in the field and immunology, from gene to t-cell and beyond.

Graphic Design 101

Graphic Design at its core is the visual communication of ideas and information, in a clear, creative and engaging way. All around us in the world today designers have created all kinds of visual media; from advertisements and posters to logos and packaging, book covers and movie titles; there are so many ways design is essential to how we experience the world. They say “don't judge a book by it's cover” but why do some covers catch your attention over others?! Why do some fonts look cheerful and others serious? This class will answer these questions and many more, giving students the opportunity to develop the skills and understanding to interpret design of all kinds, by looking at the history and theory behind this ever evolving industry!

Greek & Roman Mythology

Learn about the great Gods and Goddesses that ruled the heavens and below, from Zeus to Venus. Follow the epic journeys of great heroes such as Odysseus and Aeneas, across treacherous landscapes and mighty battlefields before plunging into the underworld. Encounter legendary monsters and magical creatures from Gorgons to fauns. In this fascinating course, we will discover the meaning behind classic myths, and how they might still be relevant today, while also creating our own awesome Gods, daring heroes, fantastic beasts, thrilling adventures and incredible prophecies.

Hogwarts; A History

Calling all Muggles! Did you know that you too can play quidditch and perform feats of magic? As well as some fun practical activities, students will delve into the mythical world of Harry Potter and will deconstruct the books to find links between Harry's world and our own: examining topics such as whether snakes and owls really are mystical beasts; whether there is any proof of the existence of goblins and fairies; and if the so-called witches and wizards in our society have anything in common with the wizards and witches in Hogwarts.

'Horrid Histories' - Rotten Rulers & Wild Wars

Have you ever wondered how people lived in the past? I bet you thought that everyone was rich, boring, and well-behaved? Well, this course will make you think again! From bloody beheadings during the French Revolution to worrisome witch-craft in Ireland, discover all the fascinating and gruesome tales from the mad Medieval Ages, rotten rebellions, and wacky world wars of the twentieth century. If you have a passion for loathsome leaders, bizarre behaviours, and ugly uprisings, this course will satisfy your creative cravings through exciting facts, fun-packed lessons, and games.

'Horrid Histories' - USA

Howdy folks! Have you ever heard of the Wild West or the magnificent Moon Landing? Well, Look no further! From the famous Christopher Columbus and the admirable Abraham Lincoln, this course reveals some the terrible and tantalising truths behind one of the world's greatest empires: The United States of America. So forget the potty prospectors and snoozy settlers to discover the most disgusting and jaw-dropping stories from American history, including cheating cowboys, a tea-party gone very wrong, and the boldest battles the world has ever witnessed.

Imaginative Storytelling

Everyone has a story to tell. We will explore storytelling in all its forms: written, oral, visual, and performative. You can dream up fairy tales, develop dramatic monologues, and design comic strips. Whether you enjoy comedic rambles, epic journeys, or truelife tales, this course will give you the tools to tell them well. Come and share the stories that lie inside of you. Please note that writing skills are not essential; just a good memory and a big imagination.

Inside the frame

This course introduces students to the analysis of film and screen media. Looking at the various aspects of cinematic production including sound, lighting, costume, acting, cinematography, genre and others, this course will look at how each of these aspects affect how we understand films, and how we might write about them. As the world becomes increasingly visualised on screen through film, tv, advertising, social media and the internet, this course will teach students to decode the meanings behind the use of imagery.

Ireland's Natural Wonders

Although we live on quite a small island, our geological landscape is remarkable. This class will focus on looking at some of the incredible geographical features on our rugged little island. From mountains, to bays and peninsulas, to drumlins. For each of the features discussed, we will look at how and when

they are formed. This class will also take a look at the journey of Ireland, from our beginnings below the equator to our current position in the northern hemisphere.

Ireland's Wild History

From bears and wolves to birds and bees – Ireland has a rich natural history, with many animals once calling our little green island home. This class will take a look the animals that once called Ireland home as well as the native species that currently live here. We will also take a look at the status of our native species, how we study these species and what we can do to help. This class is always interesting as many people do not realise how amazing our plants and animals really are.

Law and Order

What happens when someone commits a crime? Who is in charge of deciding what to do with the criminal? Why do judges sometimes wear funny wigs? Law and Order will tackle these questions and many more over our course of study. Students can expect to engage in discussions of the law, to learn how the legal system works, both in Ireland and abroad, and learn how trials work.

Medical Mysteries

How did mouldy bread save millions of lives? What makes identical twins identical? What is that growing on your toe? Tough questions like these are at the heart of science and medicine as a discipline, and tackling them leads to direct improvements in our everyday lives. From the first caveman to eat tree sap for its painkilling qualities to the cutting edge of modern medicine, this course will look at the questions that power medical advancement.

Medicine

This exciting course will bring the student on a fascinating journey of human health. It will cover both ways to keep you healthy such as nutrition, exercise and laughter, and also explain how modern medicine can help people recover from illness - from first-aid to hospital care. Discover how your heart beats, how your muscles move, and what causes illnesses such as the coronavirus.

Miraculous Microbes

A step into the world of microbiology, taking a look at bacteria, fungi and viruses. Microorganisms can be found everywhere, some helping us and some harming us. This class will focus on characterising microorganisms, as well as looking at their function in our world.

Model UN

Famine, disaster, war, epidemic and the environment; at the Model United Nations you will learn much about world politics through real life situations. Learning the skills of debate and negotiation, you will put forward your case for your country. Discuss, confer, bargain, agree, collaborate and cooperate with other countries. This is real world politics and every decision will have immense consequences for good and for bad! This course will suit students who have an interest in debating and are concerned with world justice and fairness.

Poetry & Performance

Are you passionate about drama or poetry? Have you ever starred in a play or written one yourself? By bringing together the most enjoyable elements of drama and creative writing, this course will teach you how to craft dramatic monologues, sophisticated scripts, and playful poems and show you how to perform them like a natural! Whether you're a beginner or an experienced actor, this course is all about sparking your enthusiasm for the performing arts in a way that imaginatively boosts your confidence and self-expression. So take a seat ladies and gentlemen, as you'll be sure to break a leg by the end of this course!

Puzzles and Problems

This course looks at some mathematical artistry! With plenty of puzzles to solve and codes to break, students will see how maths impacts on practically everything we do in life. The class will learn how to do some fantastic tricks with numbers, including shortcuts and fun mathematical feats to dazzle your friends.

Science of Flight

For generations we have always looked to the sky to see what wonders are above us. Our attempts to fly have taken us from flimsy paper hot-air balloons and strange-looking gliders to jet planes and spacecraft. This course will look through the various mechanisms of flight and what we have learned on the way. We will look at the forces of flight through push or pull. We will look at the elements of weight lift, thrust and drag as we discover what keeps objects in the air. A course for science and engineering enthusiasts and anyone curious about aviation.

Science of Sound

Our hearing is one of our most important senses, necessary for basic communication, speech and awareness. But have you ever stopped to think; what exactly is sound? And how do our ears actually work? Many species use sound, not only to communicate but to assess the nature of their surroundings. Studying the interaction of sound waves with certain materials can tell scientists a lot of information about that material. How we understand sound has developed considerably over the years and this course will explain the importance of these advances in our everyday lives.

Science of Tomorrow

Science of Tomorrow is an exciting course that will encourage students to ask big questions! Will space travel for holidays be possible in our lifetime? What is the next big advance for smartphones? How are we solving today's problems? In this course we will examine the scientific and technical innovations happening right now and how they could have a big impact on our future lives.

Sports Science

Sport and exercise scientists use research and analysis to give specialist advice to improve individual or team athletic performance. Did you know that without their physiotherapists, coaches, and trainers, many leading sports stars and teams, wouldn't be as successful? Study the anatomy of the human body and see how an athlete's body differs to us mere mortals! What steps do you need to take to become Ireland's next Olympian?

Superhero Science

How does Superman fly? Why do the X-Men have so many different powers? If you're into Superheroes and you love Science then this course is just for you. In this course you'll get the chance to look at your favourite Superheroes through the lens of real world Science and Science through the eyes of the Superhero!

Theatre at home!

Calling all drama enthusiasts! In this fun and interactive course, we will discover how the theatre of the past has influenced dramatic performance as we know it today. We will cover key elements of theatre including directing, stage management, set design and costume design, while also examining dramatic genres such as Greek, Roman, Commedia dell'arte, immersive theatre and musical theatre. Students will also participate in interactive workshops and collaborate to develop and perform their own short but compelling scenes. Come discover, create, and perform!

The Brilliant Brain

Do you think about thinking? Or wonder how you feel what you feel? Do you believe our senses really make sense of everything? Our brain controls how we think, move, sense, and even remember, but

sometimes it can trick us too! In this fascinating course, we will explore just how the brain works, as well as its faults and limits. With plenty of fun tests and experiments, we'll get to the bottom of this big and brilliant blob!

The Chemistry of Space

Space chemistry is a pretty recent area of study compared to astrophysics. Atoms and molecules are not very abundant in space, but they are there! Molecular collisions that result in chemical change are rare but, given enough time, complex molecules can form. There's chemistry in the stars, and how they were born. There's chemistry in the planets, and what they're made of. This course will teach you about some of the fundamentals of chemistry and the building blocks of the universe

The Science of Harry Potter

There is some wonderful science that you can learn about through this magical world! The philosopher's stone and the alchemist's quest for gold can teach us much about atoms. Is herbology really that far from our own wonderful plants? Is an invisibility cloak really that crazy? What does science say about the future of flying? This course is for anyone interested in some spellbinding science!

Volcanoes, Earthquakes & Tsunamis

This course will examine some of the natural disasters that the world experiences, and trace back the causes of such occurrences. The course will go deep into the earth to explain why volcanoes and earthquakes occur and how they affect the surrounding landscape. Examining the areas around the globe that are particularly susceptible to these natural disasters, students will learn how technology has been used to create warning systems and minimize the human impact. This exciting course will be of interest to anyone with an interest in science or geology.

Wonders of Light

In order to see, there must be light. Light shines on an object, then bounces off, or reflects, back to our eyes. But that's not all light does! Light is important in the study of ecology, photosynthesis, colour, reflection, refraction and the cosmos. During the past decades we have learnt not only how to generate and control light in exquisite ways but also how to transmit it and display it in ways that used to be the realm of science fiction and novels. As a result light-based technologies are, literally, everywhere. This exciting course will look at the fantastic properties of light and how we have used it to make it one of the most important components of modern science.