Biology & Life Sciences Reading List (two weeks)

We're looking forward to welcoming you to the Biology & Life Sciences course, and we hope you're looking forward to joining us too!

If you'd like to start exploring the subject ahead of the start of your course, here's a list of resources that will help you engage with some of the ideas you'll be exploring in more depth across the two weeks. These are by no means in order of importance and you don't have to look at all of them – let your instinct choose what sounds more interesting to you!

Books:

- **The Immortal Life of Henrietta Lacks by Rebecca Skloot** - This is a fascinating and thought-provoking book that tells the story of Henrietta Lacks, a woman whose cancer cells were used without her knowledge or consent to create an immortal cell line that has been instrumental in many medical breakthroughs.

- **The Selfish Gene by Richard Dawkins** - In this classic book, Richard Dawkins explains the concept of the gene-centred view of evolution, which suggests that the ultimate goal of evolution is the survival of genes, not individuals. The book is engaging, thought-provoking and sure to challenge your understanding of evolution.

- **The Autobiography of Charles Darwin** - This autobiography is a fascinating glimpse into the mind of one of history's greatest scientific minds. In his own words, Darwin shares the story of his life and work, including his groundbreaking theories on evolution and natural selection. A must-read for anyone interested in the history of science and the development of modern biology.

Short Articles:

- **The Double Helix: The Discovery of the Structure of DNA** – This brilliant article explores the fascinating history of the discovery of the structure of DNA, the molecule that contains the genetic instructions for all living things.

  Link: Read here

- **Antibiotics: Are you misusing them? Mayo Clinic** – What would happen if medicines

stopped working as a cure to diseases? Have you heard of the growing problem of antibiotic resistance? This occurs when bacteria evolve to become resistant to antibiotics. The article explains the causes of antibiotic resistance, the dangers it poses to human health and what we can do to address this growing threat.

Link: Read here

Videos:

- **Theory of Evolution: How did Darwin come up with it? by BBC News** - Charles Darwin sailed around the world from 1831–1836 as a naturalist aboard the HMS Beagle. His experiences and observations helped him develop the theory of evolution through natural selection. The British naturalist then published his famous book 'On the origin of species'. His theory radically transformed biology, offering a new explanation of the ancestry and evolution of living beings.

  Link: Watch here

- **Why is biodiversity so important? by TedEd** – Our planet's diverse, thriving ecosystems may seem like permanent fixtures, but they're actually vulnerable to collapse. Jungles can become deserts and reefs can become lifeless rocks. What makes one ecosystem strong and another weak in the face of change? In this video, Kim Preshoff details why the answer, to a large extent, is biodiversity.

  Link: Watch here

- **Drew Berry: Animations of unseeable biology by TedX -** We have no ways to directly observe molecules and what they do – Drew Berry wants to change that. At TEDxSydney, he shows his scientifically accurate (and entertaining!) animations that help researchers see unseeable processes within our own cells.

  Link: Watch here

Next Steps:

We're really looking forward to welcoming you to our two week Biology and Life Sciences course! If you'd like to take your learning to the next level, you're welcome to join one of our other related programmes too – many of our students sign up to multiple programmes as they prepare for their futures. Your options include:

- Our online Medicine and Psychology & Neuroscience Courses which are excellent complementary courses to broaden your understanding of the subject.

- At Oxford Scholastica, we run a residential Oxford Summer School every summer - you might be interested in the Experience Medicine Academy or Experience Psychology and Neuroscience Academy. This is an immersive, two-week residential experience which takes place on the Oxford University campus – you'll take your understanding of medicine to the next level while meeting like-minded students from around the world.
- Our month-long Internships – you'll gain hands-on experience, co-authoring a paper with an academic researcher or working with an industry professional on an exciting real-life project (particularly helpful as work experience can be hard to find!). The internships offer you a chance to get the edge in your future university applications

Other Resources:
Clarity about your future career direction will help you in your academic studies and in your university applications. We've created a quick Careers Test to help you to know what careers might suit you best. You'll then receive a personalised Careers Report, with recommended careers and resources to explore. We hope you'll find it useful!

Try the Test here