

World class thinking. World class achieving.

# St Mary's College

**BIOLOGY (EDEXCEL BIOLOGY A)**  
**Pre-course reading and guidance**





# A LEVEL Biology

## WHY SHOULD I CHOOSE BIOLOGY?

- › Biology is a wonderful science that gives you the opportunity to go into many areas, with dentistry, veterinary science, medicine to name a few. The course is taught by members of staff that have a great deal of expertise in delivering the subject. The study of life itself, A level Biology explores the theories and principles involved in living systems, in all their intricate beauty. Topics you will learn about include: lifestyle, transport, genes and health, development, plants and the environment, the natural environment and species survival, energy, exercise and co-ordination, as well as practical biology and research skills. By the end of the course you will know about the principles of genetics, molecules, taxonomy, natural selection, evolutionary theory, global warming, bacteria and viruses, and more.

## WHAT IS THE COURSE STRUCTURE LIKE?

- › The course is a **two year** course. It consists of **three exams**. The exams are worth a total of 33% each. All exams will be taken at the end of your second year. There is no coursework.



# A LEVEL Biology Exams (sat in Y13)

Paper	Topics	Weighting (%)	Time (hours)
1	<b>Topic 1:</b> Lifestyle, Health and Risk <b>Topic 2:</b> Genes and Health <b>Topic 3:</b> Voice of the Genome <b>Topic 4:</b> Biodiversity and Natural Resources <b>Topic 5:</b> On the Wild Side <b>Topic 6:</b> Immunity, Infection and Forensics	33.3	2
2	<b>Topic 1:</b> Lifestyle, Health and Risk <b>Topic 2:</b> Genes and Health <b>Topic 3:</b> Voice of the Genome <b>Topic 4:</b> Biodiversity and Natural Resources <b>Topic 7:</b> Run for your Life <b>Topic 8:</b> Grey Matter	33.3	2
3	<b>Topic 1:</b> Lifestyle, Health and Risk <b>Topic 2:</b> Genes and Health <b>Topic 3:</b> Voice of the Genome <b>Topic 4:</b> Biodiversity and Natural Resources <b>Topic 5:</b> On the Wild Side <b>Topic 6:</b> Immunity, Infection and Forensics <b>Topic 7:</b> Run for your Life <b>Topic 8:</b> Grey Matter	33.3	2

Exam Syllabus for Biology:  
<https://bit.ly/2xJ6bTw>

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# A LEVEL Biology Course Texts (Year 12)

You will be loaned the following text book in Y12:

- Salters-Nuffield AS/A level Biology Student Book 1 by University of York Science Education Group

Additionally, you will have the opportunity to purchase the following revision guide:

- CGP A-Level Biology : Edexcel Year 1 & AS Complete Revision & Practice with Online Edition



# A LEVEL Biology Further Reading (Year 12)

## Books

- Richard Dawkins: *The Selfish Gene* (top pick if interested in genetics)
- *The Blind Watchmaker*.
- *Unweaving the Rainbow*
- *Climbing Mount Improbable*
- *The Ancestor's Tale*
- Steve Jones: *Y: The Descent of Men*
- *In the Blood: God, Genes and Destiny*
- *Almost Like a Whale: The 'Origin of Species' Updated*
- *The Language of the genes* - Matt Ridley
- *Genome: The Autobiography of a Species in 23 Chapters*
- *The Red Queen: Sex and the Evolution of Human Nature*



# A LEVEL Biology Further Reading (Year 12)

## Books

- The Language of Genes
- Francis Crick: Discoverer of the Genetic Code
- Nature Via Nurture: Genes, Experience and What Makes Us Human
- James Watson: DNA: The Secret of Life
- The Double Helix: Personal Account of the Discovery of the Structure of DNA
- Lewis Thomas: The Lives of a Cell: Notes of a Biology Watcher.
- The Medusa and the Snail: More Notes of a Biology Watcher Barry Gibb: The Rough Guide to the
- Brain (Rough Guides Reference Titles)
- Charles Darwin: The origin of species (top pick if interested in evolutionary theory)
- Armand Marie Leroi: Mutants: On the Form, Varieties and Errors of the Human Body
- David S. Goodsell: The Machinery of Life
- Ernst Mayr: This Is Biology: The Science of the Living World



# A LEVEL Biology Further Reading (Year 12)

## Books

- George C. Williams: Plan and Purpose in Nature
- Steve Pinker: The Language Instinct
- Edward O Wilson: The Diversity of Life
- Richard Leaky: The Origin of Humankind
- Bill Bryson: A Short History of Nearly Everything (good read for all aspects of Biology)
- Oliver Sachs: The Man Who Mistook His Wife For A Hat
- Daniel Chamovitz: What A Plant Knows



# A LEVEL Biology Further Reading (Year 12)

## Websites

- ❖ 1. <http://www.ibiblio.org/virtualcell/index.htm> – An interactive cell biology site
- ❖ 2. <http://www.accessexcellence.org/RC/VL/GG> – A web site showing illustrations of many processes of biotechnology
- ❖ 3. <http://www.uq.oz.au/nanoworld> – Visit the world of electron-microscopy
- ❖ 4. <http://www.dnai.org/a/index.html> – Explore the genetic code
- ❖ 5. <http://nobelprize.org> – Details of the history of the best scientific discoveries
- ❖ 6. <http://nature.com> – The site of the scientific journal
- ❖ 7. <http://royalsociety.org> – Podcasts, news and interviews with scientists about recent scientific developments
- ❖ 8. <http://www.nhm.ac.uk> – The London Natural History Museum's website with lots of interesting educational material
- ❖ 9. <http://www.bmj.com> – The website of the British Medical Journal
- ❖ 10. [http://www.bbc.co.uk/news/science\\_and\\_environment](http://www.bbc.co.uk/news/science_and_environment) – The BBC news page for Science and the Environment



# Any further questions?:



Contact details of lead teachers of Biology:

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We also offer **Applied** Science as a Level 3 BTEC National and A Levels in Chemistry and Physics

Please see the relevant pre-reading guidance for further details.