

Introduction to Biomedical Sciences

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We're delighted you're thinking about studying at Brunel University London.

Our lecturers have put together the following information to help you prepare for your course. This will give you a snapshot of the materials and reading list you'll be using. You'll get a full breakdown of information before you enrol.

On our website you can also [find out more about your modules](#) and [chat to a current student](#).

If you have any more questions, [please get in touch](#).

We look forward to welcoming you to Brunel.

Topics covered

- Structure and function of cells,
- Introduction to Genetics
- Introduction to Microbiology
- Human anatomy and physiology,
- Basic molecular biology laboratory techniques.
- Biological problem-solving skills and critical thinking.

Practice questions

1. Describe the structure and function of the organelles of the cell.
2. How is energy produced in the cell?
3. What are genes?
4. How is the genetic information translated to different proteins?
5. What are the most common bacteria and viruses?
6. How do bacteria and viruses affect human health?
7. How is the human body organised?
8. How does the human body functions?
9. How and why do we get sick?
10. How do we safely work in a biomedical lab?
11. What are the main laboratory techniques used in biology and medicine?
12. How do we organise and interpret biological information?
13. Describe the structure and function of nucleic acids and how they contribute to the life of a cell.
14. Describe the process of eukaryotic cell division.
15. Describe the life cycle of bacteria.
16. Describe the structure and life cycle of viruses.

Reading list

- Molecular Biology of the Cell: Alberts et al., Publisher: Garland Science; 6 edition ISBN-10: 0815344643. ISBN-13: 978-0815344643.
- The first two chapters of Molecular Biology of the Cell by Alberts et al (a free version available here <https://www.ncbi.nlm.nih.gov/books/NBK21054/?term=alberts>)
- Molecular biology of the Gene: Watson et al., Hardcover: 912 pages. Pearson; 7 edition (20 Feb. 2013). ISBN-10: 0321762436. ISBN-13: 978-0321762436
- Mims' Medical Microbiology 5th Edition. Publisher: Saunders; 5 edition (29 Aug. 2012) Language: English ISBN-10: 0723436010 ISBN-13: 978-080892440.
- Biochemistry: Berg et al., Publisher: Palgrave Macmillan; 8th Revised edition edition (3 Jun. 2015). ISBN-10: 1464126100 ISBN-13: 978-1464126109
- The three summary sections of Biochemistry by Berg et al (freely available here <https://www.ncbi.nlm.nih.gov/books/NBK21154/?term=stryer>)

Things to watch

- BBC - Secret Universe: The Hidden Life of the Cell (<http://naturedocumentaries.org/3972/hidden-life-cell-bbc/>)
- Meet your microbes (https://www.ted.com/talks/jonathan_eisen_meet_your_microbes#t-12818)
- How a long-forgotten virus could help us solve the antibiotics crisis (https://www.ted.com/talks/alexander_belcredi_how_a_long_forgotten_virus_could_help_us_solve_the_antibiotics_crisis)
- Bill Gates: The Next outbreak. We are not ready? (https://www.ted.com/talks/bill_gates_the_next_outbreak_we_re_not_ready?language=en)



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