



The **St Anne's College Visiting Students Pre-Medical Programme** offers students the opportunity to study **biochemistry and biomedical sciences** across the extended academic year, academic year or Fall term. Visiting students usually join the second year of the Oxford degree programmes and are expected to have completed organic chemistry and an introductory biology course (or equivalents) before they begin their Oxford studies.

Teaching can be comprised of lectures, classes, seminars, practical work and tutorials, and can be distributed unevenly across the term/s or academic year. Visiting students attend lectures alongside our Oxford undergraduate students, typically 8-10 lectures per week, depending on the options studied. Lectures relating to tutorial topics are given in the same term. Other courses may have additional pre-requisites as well.

Topics may include the following from the Oxford biochemistry and biomedical sciences degrees and will vary depending on the study duration and the background of the applicant. All academic work requires significant independent preparation in terms of reading and independent study as well as written work.

Biochemistry -

- **Toolbox of biochemistry:** Isolate and characterise a gene, make and use a protein, get a protein structure.
- **Cellular Chemistry:** How do cells make energy, how do organisms use energy, prokaryotes in health, disease and environment
- **Molecular Processes:** chemicals moving across membranes, how are proteins processed, how do cells respond to signals, how do cells communicate in tissues and populations
- **Information Transfer:** how is DNA packaged in the cell, how do cells divide, how are genes expressed, how is DNA copied and maintained
- **The Cell in Time and Space:** how do viruses work, what is cancer

Biomedical sciences -

- **Cell Physiology:** action potentials, the neuromuscular junction, muscle contraction, autonomic nervous systems, control of calcium
- **Cardiovascular and respiratory physiology:** cardiac contractility, control of heart rate, regulation of breathing, control of blood pressure
- **Endocrine physiology:** pituitary gland, thyroid gland, adrenal gland
- **Gastrointestinal and renal physiology:** control of gastric secretion, gut hormones and appetite, renal physiology
- **Reproductive physiology:** human reproductive system

There may be the option to take additional courses including laboratory practicals, a literature review project or tutorials in medical humanities.

For students attending for the Fall Term or extended academic year teaching in September will be included and may cover introductory and contemporary topics in biochemistry and biomedical sciences as well as preparing you for your Oxford course of study.

Further programme information for 2023-24 will be updated here before the application deadline.