

Glossary of less known terms used in this course

- **Adaptors:** a short chemically synthesised single or double-strand DNA (oligonucleotide) used in some sequencing methodologies to connect an unknown or amplified DNA strand and a DNA barcode or other oligonucleotides.
- **A-tailing:** an enzymatic reaction to add a sequence of adenines at the 3'-terminal of a DNA fragment for sequencing purposes.
- **Barcoding:** addition of a known tag of DNA sequence (barcode) to an amplified DNA strand that permits identifying its original sample.
- **cDNA:** complementary DNA, a DNA molecule synthesised from a template RNA molecule.
- **COVID-19:** coronavirus disease 2019.
- **DNA:** deoxyribonucleic acid, an information molecule forming the “base code” for a living organism.
- **Enzyme:** a protein able to catalyse, i.e. accelerate chemical reactions.
- **ICU:** intensive care unit, the department of a hospital that provides intensive medicine.
- **ISO quality system:** International Organisation of Standardisation. It is a quality management system to ensure that a product or service meets statutory and regulatory requirements.
- **Liquid handling instrument:** automated instrument that dispenses programmed volume of reagents, buffers, samples or other specified liquids.
- **NGS:** next-generation sequencing, a high throughput sequencing methodology.
- **NHS:** National Health Service, the United Kingdom public health system.

- **Nucleotides:** the subunit molecules that form DNA and RNA molecules.
- **Pandemic:** an epidemic that has spread over several countries or continents, usually affecting a large number of people.
- **Pathogen:** a microorganism or infectious agent that can cause disease e.g. virus, bacterium, protozoan, prion or fungus.
- **PBMCs:** Peripheral blood mononuclear cells, a subset of white blood cells with a round nucleus.
- **PCR:** Polymerase Chain Reaction, a technique to amplify DNA molecules.
- **Real-time PCR:** A PCR method that uses fluorescent dye labels to detect and quantify copies of DNA during the amplification process.
- **Reverse transcription:** the process of synthesising a cDNA molecule from a template RNA using the enzyme reverse transcriptase.
- **RNA:** ribonucleic acid, an information molecule, can be the “base code” for viruses.
- **RT-qPCR:** Reverse Transcriptase Quantitative PCR, also known as reverse transcriptase real-time PCR. A PCR method to quantify RNA copies present in a sample; it includes a step to synthesise cDNA from the template RNA before the PCR amplification.
- **Outbreak:** a sudden increase in the expected number of cases of a disease in a limited area.
- **SARS-CoV-2:** Severe acute respiratory syndrome coronavirus 2
- **Sequencing:** the process of “reading” genomic material such as DNA or RNA

- **SOP:** Standard Operating Procedures. Written descriptions of a procedure, protocol, technique, method, workflow or pipeline.