

## DNA Technology

Date	Topics
7/25	Introduction/Prerequisites <ul style="list-style-type: none"><li>- DNA and RNA structure and function</li><li>- overview of DNA replication and protein synthesis</li></ul> Electrophoresis <ul style="list-style-type: none"><li>- gel electrophoresis</li><li>- capillary electrophoresis</li></ul> PCR
7/26	Recombinant DNA Technology <ul style="list-style-type: none"><li>- DNA cloning</li><li>- restriction enzymes</li><li>- vectors</li><li>- applications</li></ul>
7/27	DNA Sequencing <ul style="list-style-type: none"><li>- Maxam-Gilbert sequencing and Sanger sequencing</li><li>- shotgun sequencing</li><li>- Next-Generation sequencing</li><li>- comparisons and applications</li></ul>
7/28	Southern Blotting Detecting Gene Expression <ul style="list-style-type: none"><li>- Northern Blotting</li><li>- In Situ Hybridization</li><li>- RT-PCR and COVID-19 Testing</li><li>- DNA Microarrays</li></ul> (Other applications of microarrays)
7/29	Gene Editing <ul style="list-style-type: none"><li>- ZFS and TALENS</li><li>- CRISPR-Cas9</li><li>- comparisons and applications</li></ul> (Other methods and applications of DNA-based biotechnology)