# Week 1 - “Getting Started” Supplementary Material

## Videos from Opening Weekend Festival:

*Planning and Designing Your Projec*t - iGEM 2020 Opening Weekend Festival[**https://youtu.be/39nLyxYun38**](https://youtu.be/39nLyxYun38)

*Cloning and Assembly Plans* - iGEM 2020 Opening Weekend Festival

[**https://www.youtube.com/watch?v=f0Q1xeX2xzA**](https://www.youtube.com/watch?v=f0Q1xeX2xzA)

*Modelling* - iGEM 2020 Opening Weekend Festival

<https://www.youtube.com/watch?v=z7isDdt0lS0>

## Design Tools:

* Benchling <https://www.benchling.com>
* Snapgene <https://www.snapgene.com>
* Geneious <https://www.geneious.com/>
* SBOL designer: <https://sbolstandard.org/applications/>
* Biopython: <https://biopython.org/>

Practicum:

**How to use databases and bioinformatic tools:**

(Includes several videos and links to tools and databases)

<https://2020.igem.org/Measurement/Webinars>

Download “Databases & Bioinformatics Tools for Beginners Practicum”

Links to further information:

Assembly Methods:

BioBrick Assembly: <https://www.neb.com/applications/cloning-and-synthetic-biology/dna-assembly-and-cloning/biobrick-assembly#:~:text=BioBrick%C2%AE%20Assembly,-Product%20Listing%20Application&text=The%20BioBrick%C2%AE%20Assembly%20method,to%20building%20novel%20biological%20systems.>

Gibson Assembly: <https://www.neb.com/applications/cloning-and-synthetic-biology/dna-assembly-and-cloning/gibson-assembly>

Golden Gate Assembly: <https://www.neb.com/applications/cloning-and-synthetic-biology/dna-assembly-and-cloning/golden-gate-assembly>

Cloning techniques:

<https://www.addgene.org/mol-bio-reference/cloning>

Database & Bioinformatic Tools:

Youtube videos on how to use BioCyc: (highly recommended)

<https://www.youtube.com/user/SRIBRG>

How to use UniProt:

<https://www.youtube.com/watch?v=Gu_YFnzmLsI>

<https://www.ebi.ac.uk/training/online/course/uniprot-exploring-protein-sequence-and-functional/how-access-and-navigate-uniprot-website>

How to use BRENDA:

<https://www.brenda-enzymes.org/tutorial.php>

How to use PDB:

<https://pdb101.rcsb.org/learn/guide-to-understanding-pdb-data/introduction>

How to use NCBI:

<https://www.youtube.com/watch?v=NLRutNVhRMo>

<https://www.ncbi.nlm.nih.gov/guide/training-tutorials/>

How to use NCBI - BLAST:

<https://www.youtube.com/watch?v=gKRDe7-l42M>

<https://www.ncbi.nlm.nih.gov/books/NBK1734/>

Further information on using a non-redundant BLAST

<https://www.ncbi.nlm.nih.gov/refseq/about/nonredundantproteins/>

Further information on the statistics of BLAST and how to interpret BLAST scores

<https://usuhs.libguides.com/c.php?g=468091&p=3260303>

<https://www.ncbi.nlm.nih.gov/BLAST/tutorial/Altschul-1.html>

How to use RefSeq:

<https://www.youtube.com/watch?v=zs46Ur0m0mc>

<https://www.ncbi.nlm.nih.gov/refseq/about/>

<https://www.youtube.com/watch?v=RHz2nZbzjpA>

Further information on using ExPasy:

<https://web.expasy.org/docs/expasy_tools05.pdf>

How to use Clustal Omega - Multiple Sequence Alignment Tool:

[https://www.ebi.ac.uk/seqdb/confluence/display/THD/Clustal+Omega](https://www.ebi.ac.uk/seqdb/confluence/display/THD/Clustal%2BOmega)

Further information on GO Terms:

<https://geneontology.org/docs/ontology-documentation/>