Days	Names	Duration	Category	Main Category
1	Introduction to National Center of Biotechnology Information (NCBI)	18:01	NCBI	Bioinformatics Databases
2	Sequence Analysis	17:59	NCBI	Bioinformatics Databases
3	Sequence Retrieval from NCBI	16:16	NCBI	Bioinformatics Databases
4	PubMed Central & ENTREZ	11:06	NCBI	Bioinformatics Databases
5	FASTA (Sequence Format)	6:13	Sequence Format	Bioinformatics File Formats
6	GenBank: Nucleotide Database on NCBI	6:50	NCBI	Bioinformatics Databases
7	GenBank (Sequence Annotation Format)	7:08	Sequence Format	Bioinformatics File Formats
8	FASTA vs. GenBank	18:26	NCBI	Bioinformatics Databases
9	Gene Database: A Comprehensive Gene Database	30:21:00	NCBI	Bioinformatics Databases
10	NCBI Genomes & NCBI Assembly: Retrieval of Genomes	36:14:00	NCBI	Bioinformatics Databases
11	Gene File Format/Gene Transfer Format	11:06	Sequence Format	Bioinformatics File Formats

12	BED (Gene Structure Format)	4:26	Sequence Format	Bioinformatics File Formats
13	RefSeq Database: Retrieval of Single Reference Sequences	11:15	NCBI	Bioinformatics Databases
14	BLAST Database Searching	25:36:00	NCBI	Bioinformatics Databases
15	Introduction to Molecular Modeling Database (MMDB)	8:06	NCBI	Protein Databases & Analysis
16	Introduction to UCSC Genome Browser & SARS-CoV-2 Viral Genome	13:40	UCSC	Bioinformatics Databases
17	Retrieve an Entire Genome & Retrieval of SARS-CoV-2 Viral Genome	9:40	UCSC	Bioinformatics Databases
18	Retrieval of Genomic Data & Annotation of SARS-CoV-2 Viral Genome	5:29	UCSC	Bioinformatics Databases
19	Introduction to UniProt	9:56	UniProt	Protein Databases & Analysis
20	UniProtKB & Protein Analysis	39:29:00	UniProt	Protein Databases & Analysis
21	Introduction to Protein Data Bank (PDB)	6:44	PDB	Protein Databases & Analysis
22	Accurately Searching for a Protein Structure on PDB & Protein Analysis	13:55	PDB	Protein Databases & Analysis
23	Introduction to ENSEMBL	7:49	ENSEMBL	Bioinformatics Databases

24	Retrieval of a Gene-Protein-Chromosomal Region	18:01	ENSEMBL	Bioinformatics Databases
25	Introduction to InterPro	4:10	InterPro	Protein Databases & Analysis
26	InterPro - Protein Family Classifcation and Analysis	14:35	InterPro	Protein Databases & Analysis
27	Introducton to Phytozome	9:38	Phytozome	Bioinformatics Databases
28	Interpret Plant Genome Records	9:06	Phytozome	Bioinformatics Databases
29	Download an Entire Plant Genome & Proteome	26:41:00	Phytozome	Bioinformatics Databases
30	EMBOSS NEEDLE: Global Alignment of Sequences	20:02	Pairwise Sequence Alignment & Analysis	Sequence Alignment & Analysis
31	EMBOSS Water	9:10	Pairwise Sequence Alignment & Analysis	Sequence Alignment & Analysis
32	Clustal Omega: Most Reliable Multiple Sequnce Alignment Tool	19:18	Multiple Sequence Alignment & Analysis	Sequence Alignment & Analysis
33	Clustal Omega Alignment Format	5:07	Alignment Format	Bioinformatics File Formats
34	Jalview	13:42	Multiple Sequence Alignment & Analysis	Sequence Alignment & Analysis
35	MEGA - Multiple Sequence Alignment	4:23	Multiple Sequence Alignment & Analysis	Sequence Alignment & Analysis

36	MEGA (Alignment Format)	5:32	Alignment Format	Bioinformatics File Formats
37	iTOL: Creating Publishable Phylogenetic Figures	13:42	Phylogenetic Tree Building & Visualization	Phylogenetic Analysis
38	Quick2D	4:33	Secondary Structure Prediction	Secondary Structure Prediction
39	Jpred: Prediction Secondary Structure of the Proteins	4:54	Secondary Structure Prediction	Secondary Structure Prediction
40	HMMER - Hidden Markov Model Based Protein Profiles Database	13:16	Protein Analysis	Protein Databases & Analysis
41	SignalP: Prediction of Signal Peptides	7:57	Protein Analysis	Protein Databases & Analysis
42	TargetP: Prediction of Protein Localization	9:21	Protein Analysis	Protein Databases & Analysis
43	Gene Structure Display Server 2.0	8:35	Genomics Tools	Genomics Tools
44	Introduction to R in Bioinformatics & R Installation	9:47	Introduction	R
45	The R Studio Interface Explanation	6:23	Introduction	R
46	Comments	4:16	Introduction	R
47	Sample & Replacement	9:09	Variables & Functions	R

48	Variable Declaration and Objects	5:24	Variables & Functions	R
49	Built-in Functions & ARGS	4:31	Variables & Functions	R
50	Write Your Own Functions And Arguments	5:39	Variables & Functions	R
51	Scripts	7:36	Variables & Functions	R
52	Attributes and Names	4:46	Vectors & Data Types	R
53	Characters	4:43	Vectors & Data Types	R
54	Doubles	3:30	Vectors & Data Types	R
55	Logicals	2:27	Vectors & Data Types	R
56	Factors	6:40	Vectors & Data Types	R
57	Atomic Vectors	2:42	Vectors & Data Types	R
58	Integers	3:23	Vectors & Data Types	R
59	Dim & Dimensions	5:46	Vectors & Data Types	R

60	Coercion	4:27	Vectors & Data Types	R
61	Lists	6:41	Vectors & Data Types	R
62	Matrix & Matrices	4:42	Vectors & Data Types	R
63	Arrays	3:42	Vectors & Data Types	R
64	Class	3:12	Vectors & Data Types	R
65	Packages	4:00	Packages	R
66	Getting Help with Help Packages	3:42	Packages	R
67	Install Bioinformatics Packages	5:25	Packages	R
68	Library & Initialization of Packages	2:27	Packages	R
69	Loading Biological Data	7:55	Biological Data Analysis	R
70	Zero Notation for Subsetting Biological Datasets	1:09	Biological Data Analysis	R
71	Saving Biological Data	5:26	Biological Data Analysis	R

72	R Notation & Selecting Values from Biological Dataset	4:09	Biological Data Analysis	R
73	Data Frames	6:30	Biological Data Analysis	R
74	Positive Integers for Subsetting Biological Dataset	5:25	Biological Data Analysis	R
75	Negative Integers for Subsetting Biological Dataset	5:28	Biological Data Analysis	R
76	Dollar Signs for Biological Dataset Subsetting	2:58	Biological Data Analysis	R
77	Blank Spaces For Biological Data Subsetting	3:20	Biological Data Analysis	R
78	Modifying Values in Existing Datasets	7:06	Biological Data Analysis	R
79	NA Values in Biological Dataset	5:24	Biological Data Analysis	R
80	Figuring out NA Values in Biological Dataset	2:06	Biological Data Analysis	R
81	Logical Subsetting in Biological Datasets	9:45	Biological Data Analysis	R
82	If Else Statement	4:15	Control Flow	R
83	For Loops & Biological Data Binding	16:30	Control Flow	R

84	While Loops & Reading Multiple Biological Datasets	16:16	Control Flow	R