

Days	Name	Durations	Category
1	Why Python in Bioinformatics	9:16	Introduction
1	Introduction to Python and it's Intallation	8:25	Introduction
2	Comments	5:42	Introduction
2	Basic Input and output	15:37	Introduction
3	Mathematical Operations	7:20	Introduction
3	Strings	21:51	Iterable Objects
4	Dictionaries	10:57	Iterable Objects
4	Lists	28:47:00	Iterable Objects
5	Lists(pt 2) and Tuples	10:37:00	Iterable Objects
5	Sets	7:35	Iterable Objects
6	If-Else	9:19	Control Flow
6	For Loop and calc of Mol. weight	10:56	Control Flow
7	While Loop	9:37	Control Flow
7	Reading Files	13:45	File Handling
8	CSV	8:41	File Handling
8	Writing Files	7:17	File Handling
9	Consolidate(merge) multiple DNA and Protein Sequences into one FASTA file	9:24	File Handling

9	OS	31:47:00	File Handling
10	Function	26:41:00	Functions & Modules
10	With	8:50	Functions & Modules
11	Error Handling	15:31	Error Handling
12	Introduction to BioPython & Installation	10:18	Introduction
12	Bio.Seq Create a Seq Object	7:38	Sequence Analysis
13	Bio.Seq Seq Object Behaves Like a String	9:54	Sequence Analysis
13	Bio.Seq Central Dogma in Play Through Python	8:41	Sequence Analysis
14	Bio.Seq Unkown & Mutable Sequences	6:53	Sequence Analysis
14	Bio.Alphabet Understanding the Alphabets of Biology	7:37	Sequence Analysis
15	Bio.Alphabet IUPAC and Types of Sequence Representations	10:34	Sequence Analysis
15	Bio.Alphabet Concatenation of Multiple Seq Records Using Generic Alphabets	9:47	Sequence Analysis
16	SeqRecord Creating Seq Records	12:27	Sequence Analysis
16	SeqRecords & FASTA	4:35	Sequence Analysis
17	SeqRecords & GenBank	3:28	Sequence Analysis
17	SeqRecord Formatting Records	3:47	Sequence Analysis
18	SeqRecord Comparison & Reading Multiple FASTA Files from Directory	5:47	Sequence Analysis
18	SeqIO Reading a Sequence File	10:32	Sequence Data Parsing

19	SeqIO Parsing a Sequence File	7:16	Sequence Data Parsing
19	SeqIO Parsing a Compressed Sequence File & Creating a Dictionary of Sequences	6:10	Sequence Data Parsing
20	SeqIO - Write Sequences and SeqRecords Into Files	11:42	Sequence Data Parsing
20	SeqIO Extracting Annotations and Pattern-wise Sequence Data Extraction	10:35	Sequence Data Extraction
21	AlignIO - Reading and Parsing a Multiple Sequence Alignment File	8:19	Alignment Parsing and Analysis
21	AlignIO - Writing Alignments and Multiple Sequence Alignment Records	5:28	Alignment Parsing and Analysis
22	AlignIO - Conversion of Alignment Formats	4:01	Alignment Parsing and Analysis
22	AlignIO - Manipulating Alignments	2:57	Alignment Parsing and Analysis
23	AlignIO - ClustalW Python Wrapper - Align Multiple Sequences	7:47	Alignment Parsing and Analysis
23	AlignIO - Pairwise2 - Align Two Sequences	7:31	Alignment Parsing and Analysis
24	AlignIO - Information Mapping of Alignments	2:33	Alignment Parsing and Analysis
25	AlignIO - Format Alignments	3:55	Alignment Parsing and Analysis
25	AlignIO - Slicing Alignments	6:05	Alignment Parsing and Analysis
26	Bio.Blast - Querying NCBI BLAST Through Python	11:41	BLAST Database Searching
27	Bio.Blast - Parsing BLAST Results	14:51	Parsing BLAST results
28	Bio.Entrez - Accessing ENTREZ Using Python	9:32	Biological Data Retrieval
29	Bio Entrez Use Esummary To Get Summary Of Your Accessions	8:59	Biological Data Retrieval
30	Bio.Entrez - Use EFetch to Download Complete Records	13:56	Biological Data Retrieval

31	Bio.Entrez - Use EGQuery to Do Global Queries for Search Counts	7:24	Biological Data Retrieval
32	Bio.Entrez - Use Elink To Search For Database Links Of Records	3:41	Biological Data Retrieval
33	Bio.Entrez - Use ESearch to Search the Entrez Databases	8:20	Biological Data Retrieval
34	Bio.Entrez - Use Espell To Get Correct Spellings For Your Search Terms	5:21	Biological Data Retrieval
35	Bio.Entrez - Download GenBank and Entrez Records	14:17	Biological Data Retrieval
36	Bio.Entrez - Taxonomy Database Searching	7:05	Biological Data Retrieval
37	Bio.Entrez - Download PubMed Articles	8:28	Biological Data Retrieval
38	Bio.Entrez - Use EFetch to Download Complete Records	13:56	Biological Data Retrieval
39	Bio.PDB - Reading a PDB (3D Structure) File	11:59	Parsing a PDB Structure file
39	Bio.Phylo - Calculating Distance Matrix Between Sequences For Phylogenetic	4:18	Phylogenetic Analysis
40	Bio.Phylo - Converting Phylogenetic Tree Data Formats	3:28	Phylogenetic Analysis
41	Bio.Phylo - Printing Out Phylogenetic Tree In Ascii	2:17	Phylogenetic Analysis
42	Bio.Phylo - Reading Phylogenetic Trees	6:28	Phylogenetic Analysis
42	Bio.Phylo - Visualization And Manipulation Of Phylogenetic Trees	9:36	Phylogenetic Analysis
43	Bio.Phylo - Writing Out Phylogenetic Data	4:04	Phylogenetic Analysis
43	Bio.motifs - Creating a WebLogo of Motifs		Protein Sequence Analysis
44	Bio.motifs - MEME Analysis		Protein Sequence Analysis
44	Introduction to R in Bioinformatics & R Installation	9:47	Introduction

45	The R User Interface	6:23	Introduction
45	Comments	4:16	Introduction
46	Variable Declaration and Objects	5:24	Variables & Functions
47	Built-in Functions & ARGS	4:31	Variables & Functions
48	Sample & Replacement	9:09	Variables & Functions
49	Write Your Own Functions And Arguments	5:39	Variables & Functions
50	Scripts	7:36	Variables & Functions
51	Packages	4:00	Packages
52	Install Packages	5:25	Packages
53	Library & Initialize Packages	2:27	Packages
54	Getting Help with Help Packages	3:42	Packages
55	Atomic Vectors	2:42	Vectors & Data Types
56	Doubles	3:30	Vectors & Data Types
57	Integers	3:23	Vectors & Data Types
58	Characters	4:43	Vectors & Data Types
59	Logicals	2:27	Vectors & Data Types
60	Attributes and Names	4:46	Vectors & Data Types
61	Dim & Dimensions	5:46	Vectors & Data Types

62	Matrix & Matrices	4:42	Vectors & Data Types
63	Arrays	3:42	Vectors & Data Types
64	Class	3:12	Vectors & Data Types
65	Factors	6:40	Vectors & Data Types
66	Coercion	4:27	Vectors & Data Types
67	Lists	6:41	Vectors & Data Types
68	Data Frames	6:30	Biological Data Analysis
69	Loading Biological Data	7:55	Biological Data Analysis
70	Saving Biological Data	5:26	Biological Data Analysis
71	R Notation & Selecting Values from Biological Dataset	4:09	Biological Data Analysis
72	Positive Integers for subsetting Biological Dataset(DataFrame)	5:25	Biological Data Analysis
73	Negative Integers for subsetting Biological Dataset(DataFrame)	5:28	Biological Data Analysis
74	Zero Notation for subsetting Biological Datasets (DataFrames)	1:09	Biological Data Analysis
75	Blank Spaces For Biological Data Subsetting	3:20	Biological Data Analysis
76	Dollar Signs for Biological Dataset Subsetting	2:58	Biological Data Analysis
77	Modifying Values in Existing DataFrames/Datasets	7:06	Biological Data Analysis
78	NA Values in Biological Dataset	5:24	Biological Data Analysis
79	Figuring out NA Values in Biological Dataset	2:06	Biological Data Analysis

80	Logical Subsetting in Biological Datasets	9:45	Biological Data Analysis
81	If Else Statement	4:15	Control Flow
82	Comments	4:16	Introduction
83	For Loops & Biological Data Binding	16:30	Control Flow
84	While Loops & Reading Multiple Biological Datasets	16:16	Control Flow
85	Introduction to ggplot2 for Biological Datasets	10:46	Data Visualization: ggplot2
86	ggplot2: Key components	8:25	Data Visualization: ggplot2
87	ggplot2: Human Mitochondrial Proteome & Aesthetics (Size, Shape, Color)	26:02:00	Data Visualization: ggplot2
88	ggplot2: Facetting of Human Genome	22:25	Data Visualization: ggplot2
89	ggplot2: Smooth Out the Biological Data	8:43	Data Visualization: ggplot2
90	ggplot2: Boxplots for Human Mitochondrial Proteome	7:55	Data Visualization: ggplot2
91	ggplot2 :Histograms for Human Mitochondrial Pattern Finding	6:02	Data Visualization: ggplot2
92	ggplot2: Frequency Plots for Human Mitochondrial Information Frequency Mining	6:12	Data Visualization: ggplot2
93	ggplot2: Bar Charts Human Mitochondrial Knowledge Mining	10:43	Data Visualization: ggplot2
94	ggplot2 - Scaling and Limiting Data Visualization	3:53	Data Visualization: ggplot2
95	ggplot2 - Changing Labels and Finalizing Visualization	8:41	Data Visualization: ggplot2
96	ggtree - Phylogenetic Tree Visualization	5:41	Data Visualization: ggplot2
97	ggplot2 - Saving the Visualizations in High Resolution		Data Visualization: ggplot2

98	Introduction to Linux for Bioinformatics	22:31	Introduction
99	PWD - Print Working Directory	1:26	Managing Files and Directories
100	CD - Changing Directories	5:03	Managing Files and Directories
101	MKDIR - Making Directories	8:12	Managing Files and Directories
102	MV - Moving Files, Directories and Data	5:10	Managing Files and Directories
103	RM - Deleting Files and Directories	1:23	Managing Files and Directories
104	Cat - Visualization and Inspection of Text Data	3:55	Processing Files
105	Head - Reading Specified Number of Lines from Top	3:49	Processing Files
106	Tail- Reading Specified Number of Lines from Bottom	2:22	Processing Files
107	Less - Visualization of Textual Data		Processing Files
108	More - Visualization of Textual Data		Processing Files
109	Touch - Modifying File Statistics and Creating Files	7:03	Managing Files and Directories
110	Stat - Statistics of File & Directories	2:43	Finding Files
111	Which & Whereis - Find Programs You Installed	3:43	Finding Files
112	Find - Finding User Created Files	3:38	Finding Files
113	GZIP - Compress and Archive Files Efficiently	6:05	Archiving & Compressing Files
114	GUNZIP - Extract Compressed Content	2:14	Archiving & Compressing Files
115	Tar - Create Archives of Genome Data	4:18	Archiving & Compressing Files



116	Wget - Retrieval of Genome Assemblies	6:48	Displaying Dates & Time
117	Curl - Retrieval of Bioinformatics Files	2:25	Displaying Dates & Time
118	Vim - Create and Edit Text Files	5:58	Text Editor
119	Diff - Find Sequence Differences in Files	2:34	Processing Files
120	Grep - Finding Uncharacterized Proteins in Human Genome	8:55	Processing Files
121	Chmod - Modification of File Permissions		Managing Files and Directories
122	Chown - Finding the Ownership of the Files		Managing Files and Directories
123	Cut - Subsetting Required Textual Data from Text Files	5:48	Processing Files
124	Sed - Powerful Tool for Biological Data Subsetting		Processing Files
125	Sort - Sorting Data	4:22	Processing Files
126	Uniq - Finding Unique Data Items	10:32	Processing Files
127	WC - Statistics of the Data Within File	2:45	Processing Files
128	Bg - Running Bioinformatics Tasks in Background		Managing Files
129	Fg - Running Bioinformatics Tasks in Foreground		Managing Files
130	Chsh - Changing Shells		Managing Users
131	Su - Taking Control of Your Computer		Managing Users
132	Piping and Control Data Flow	6:34	Piping & Redirection