

Days	Name	Durations	Category	Main Category
1	Why Python in Bioinformatics	9:16	Introduction	Python
2	Introduction to Python and it's Intallation	8:25	Introduction	Python
3	Comments	5:42	Introduction	Python
4	Basic Input and output	15:37	Introduction	Python
5	Mathematical Operations	7:20	Introduction	Python
6	Strings	21:51	Iterable Objects	Python
7	Dictionaries	10:57	Iterable Objects	Python
8	Lists	28:47:00	Iterable Objects	Python
9	Lists(pt 2) and Tuples	10:37:00	Iterable Objects	Python
10	Sets	7:35	Iterable Objects	Python
11	If-Else	9:19	Control Flow	Python
12	For Loop and calc of Mol. weight	10:56	Control Flow	Python
13	While Loop	9:37	Control Flow	Python
14	Reading Files	13:45	File Handling	Python
15	CSV	8:41	File Handling	Python
16	Writing Files	7:17	File Handling	Python
17	Consolidate(merge) multiple DNA and Protein Sequences into one FASTA file	9:24	File Handling	Python
18	OS	31:47:00	File Handling	Python
19	Function	26:41:00	Functions & Modules	Python
20	With	8:50	Functions & Modules	Python
21	Error Handling	15:31	Error Handling	Python
22	Introduction to BioPython & Installation	10:18	Introduction	BioPython
23	Bio.Seq Create a Seq Object	7:38	Sequence Analysis	BioPython
24	Bio.Seq Seq Object Behaves Like a String	9:54	Sequence Analysis	BioPython
25	Bio.Seq Central Dogma in Play Through Python	8:41	Sequence Analysis	BioPython
26	Bio.Seq Unkown & Mutable Sequences	6:53	Sequence Analysis	BioPython

46	AlignIO - Information Mapping of Alignments	2:33	Alignment Parsing and Analysis	BioPython
47	AlignIO - Format Alignments	3:55	Alignment Parsing and Analysis	BioPython
48	AlignIO - Slicing Alignments	6:05	Alignment Parsing and Analysis	BioPython
49	Bio.Blast - Querying NCBI BLAST Through Python	11:41	BLAST Database Searching	BioPython
50	Bio.Blast - Parsing BLAST Results	14:51	Parsing BLAST results	BioPython
51	Bio.Entrez - Accessing ENTREZ Using Python	9:32	Biological Data Retrieval	BioPython
52	Bio Entrez Use Esummary To Get Summary Of Your Accessions	8:59	Biological Data Retrieval	BioPython
53	Bio.Entrez - Use EFetch to Download Complete Records	13:56	Biological Data Retrieval	BioPython
54	Bio.Entrez - Use EGQuery to Do Global Queries for Search Counts	7:24	Biological Data Retrieval	BioPython
55	Bio.Entrez - Use Elink To Search For Database Links Of Records	3:41	Biological Data Retrieval	BioPython
56	Bio.Entrez - Use ESearch to Search the Entrez Databases	8:20	Biological Data Retrieval	BioPython
57	Bio.Entrez - Use Espell To Get Correct Spellings For Your Search Terms	5:21	Biological Data Retrieval	BioPython
58	Bio.Entrez - Download GenBank and Entrez Records	14:17	Biological Data Retrieval	BioPython
59	Bio.Entrez - Taxonomy Database Searching	7:05	Biological Data Retrieval	BioPython
60	Bio.Entrez - Download PubMed Articles	8:28	Biological Data Retrieval	BioPython
61	Bio.Entrez - Use EFetch to Download Complete Records	13:56	Biological Data Retrieval	BioPython
62	Bio.PDB - Reading a PDB (3D Structure) File	11:59	Parsing a PDB Structure file	BioPython
63	Bio.Phylo - Calculating Distance Matrix Between Sequences For Phylogenetic Analysis	4:18	Phylogenetic Analysis	BioPython

64	Bio.Phylo - Converting Phylogenetic Tree Data Formats	3:28	Phylogenetic Analysis	BioPython
65	Bio.Phylo - Printing Out Phylogenetic Tree In Ascii	2:17	Phylogenetic Analysis	BioPython
66	Bio.Phylo - Reading Phylogenetic Trees	6:28	Phylogenetic Analysis	BioPython
67	Bio.Phylo - Visualization And Manipulation Of Phylogenetic Trees	9:36	Phylogenetic Analysis	BioPython
68	Bio.Phylo - Writing Out Phylogenetic Data	4:04	Phylogenetic Analysis	BioPython
69	Bio.motifs - Creating a WebLogo of Motifs		Protein Sequence Analysis	BioPython
70	Bio.motifs - MEME Analysis		Protein Sequence Analysis	BioPython
71	Introduction to R in Bioinformatics & R Installation	9:47	Introduction	R
72	The R User Interface	6:23	Introduction	R
73	Comments	4:16	Introduction	R
74	Variable Declaration and Objects	5:24	Variables & Functions	R
75	Built-in Functions & ARGS	4:31	Variables & Functions	R
76	Sample & Replacement	9:09	Variables & Functions	R
77	Write Your Own Functions And Arguments	5:39	Variables & Functions	R
78	Scripts	7:36	Variables & Functions	R
79	Packages	4:00	Packages	R
80	Install Packages	5:25	Packages	R
81	Library & Initialize Packages	2:27	Packages	R
82	Getting Help with Help Packages	3:42	Packages	R
83	Atomic Vectors	2:42	Vectors & Data Types	R
84	Doubles	3:30	Vectors & Data Types	R
85	Integers	3:23	Vectors & Data Types	R
86	Characters	4:43	Vectors & Data Types	R
87	Logicals	2:27	Vectors & Data Types	R
88	Attributes and Names	4:46	Vectors & Data Types	R
89	Dim & Dimensions	5:46	Vectors & Data Types	R
90	Matrix & Matrices	4:42	Vectors & Data Types	R
91	Arrays	3:42	Vectors & Data Types	R

92	Class	3:12	Vectors & Data Types	R
93	Factors	6:40	Vectors & Data Types	R
94	Coercion	4:27	Vectors & Data Types	R
95	Lists	6:41	Vectors & Data Types	R
96	Data Frames	6:30	Biological Data Analysis	R
97	Loading Biological Data	7:55	Biological Data Analysis	R
98	Saving Biological Data	5:26	Biological Data Analysis	R
99	R Notation & Selecting Values from Biological Dataset	4:09	Biological Data Analysis	R
100	Positive Integers for subsetting Biological Dataset(DataFrame)	5:25	Biological Data Analysis	R
101	Negative Integers for subsetting Biological Dataset(DataFrame)	5:28	Biological Data Analysis	R
102	Zero Notation for subsetting Biological Datasets (DataFrames)	1:09	Biological Data Analysis	R
103	Blank Spaces For Biological Data Subsetting	3:20	Biological Data Analysis	R
104	Dollar Signs for Biological Dataset Subsetting	2:58	Biological Data Analysis	R
105	Modifying Values in Existing DataFrames/Datasets	7:06	Biological Data Analysis	R
106	NA Values in Biological Dataset	5:24	Biological Data Analysis	R
107	Figuring out NA Values in Biological Dataset	2:06	Biological Data Analysis	R
108	Logical Subsetting in Biological Datasets	9:45	Biological Data Analysis	R
109	If Else Statement	4:15	Control Flow	R
110	Comments	4:16	Introduction	R
111	For Loops & Biological Data Binding	16:30	Control Flow	R
112	While Loops & Reading Multiple Biological Datasetswhile Loops & Reading Multiple Biological Datasets	16:16	Control Flow	R
113	Introduction to ggplot2 for Biological Datasets	10:46	Data Visualization: ggplot2	R

135	Piping and Redirection of Data	3:34	Piping and Control Data Flow	Linux
136	Cat - Visualization and Inspection of Text Data	3:55	Pre-processing Biological Datasets	Linux
137	Head - Reading Specified Number of Lines from Top	3:49	Pre-processing Biological Datasets	Linux
138	Tail- Reading Specified Number of Lines from Bottom	2:22	Pre-processing Biological Datasets	Linux
139	Touch - Modifying File Statistics and Creating Files	7:03	Pre-processing Biological Datasets	Linux
140	Stat - Statistics of File & Directories	2:46	Pre-processing Biological Datasets	Linux
141	Wget - Retrieval of Genome Assemblies	6:48	Pre-processing Biological Datasets	Linux
142	Curl - Retrieval of Bioinformatics Files	2:25	Pre-processing Biological Datasets	Linux
143	Vim - Create and Edit Text Files	5:58	Pre-processing Biological Datasets	Linux
144	Diff - Find Sequence Differences in Files	2:34	Pre-processing Biological Datasets	Linux
145	GZIP - Compress and Archive Files Efficiently	6:05	Processing and Analysis of Biological Datasets	Linux
146	GUNZIP - Extract Compressed Content	2:14	Processing and Analysis of Biological Datasets	Linux
147	Tar - Create Archives of Genome Data	4:18	Processing and Analysis of Biological Datasets	Linux
148	Grep - Finding Uncharacterized Proteins in Human Genome	8:55	Processing and Analysis of Biological Datasets	Linux
149	Cut - Subsetting Required Textual Data from Text Files	5:48	Processing and Analysis of Biological Datasets	Linux
150	Sort - Sorting Data	4:22	Processing and Analysis of Biological Datasets	Linux
151	Uniq - Finding Unique Data Items	10:32	Processing and Analysis of Biological Datasets	Linux
152	WC - Statistics of the Data Within File	2:45	Processing and Analysis of Biological Datasets	Linux
153	CP - Copying Files and Files Contents	3:43	Processing and Analysis of Biological Datasets	Linux

179	Introduction to tidyr		Tidy Data with tidyr	R
180	Data Tidying		Tidy Data with tidyr	R
181	Data Spreading & Gathering		Tidy Data with tidyr	R
182	Data Separating & Pull		Tidy Data with tidyr	R
183	Missing Values		Tidy Data with tidyr	R
184	Case Study with tidyr		Tidy Data with tidyr	R
185	Nontidy Data		Tidy Data with tidyr	R
186	Introduction to ArrayExpress - Getting Started With MicroArray Analysis	9:55	MicroArray Analysis: BioConductor	R
187	Introduction to BioConductor - Installing MicroArray Packages	5:05	MicroArray Analysis: BioConductor	R
188	Getting Started with R Studio Project for MicroArray Analysis	4:50	MicroArray Analysis: BioConductor	R
189	Downloading MicroArray Raw Data from ArrayExpress	4:19	MicroArray Analysis: BioConductor	R
190	Creating Raw Intensities MicroArray Data Structure and Log2 Transformation	14:40	MicroArray Analysis: BioConductor	R
191	Principle Component Analysis of Raw Expression Dataset	15:44	MicroArray Analysis: BioConductor	R
192	Box Plot Visualization of Raw Intensity Data to Interpret the Median Intensities of the Samples		MicroArray Analysis: BioConductor	R
193	ArrayQualityMetrics - Automated Quality Control for Microarray Datasets		MicroArray Analysis: BioConductor	R
194	Annotating the Probe IDs with Gene Symbols and Names		MicroArray Analysis: BioConductor	R
195	Excluding Probe IDs with Multiple Mappings from the ExpressionSet		MicroArray Analysis: BioConductor	R
196	Filtering out the Genes that are Above Threshold		MicroArray Analysis: BioConductor	R
197	Heatmap Visualization of the Normalized Gene Expression Values	11:51	MicroArray Analysis: BioConductor	R
198	Intensity-based Filtration of Low-Intensity Transcripts		MicroArray Analysis: BioConductor	R

