Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce, and Science College, Ahmednagar (Autonomous)

(Affiliated to Savitribai Phule Pune University, Pune)

National Education Policy (NEP)
Choice Based Credit System (CBCS)

Programme Skeleton and Syllabus of
Statistics (Minor)

Implemented from

Academic Year 2024-25

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar (Autonomous)

Board of Studies in Statistics

Sr. No.	Name	Designation
1.	Dr. A. A. Kulkarni	Chairman
2.	Dr. B. K. Thorve	Member
3.	Prof. K. B. Mane	Member
4.	Prof. B. P. Kharat	Member
5.	Prof. M. Z. Shaikh	Member
6.	Prof. S. S. Bansode	Member
7.	Prof. S.S. Dhadiwal	Member
8.	Prof. V. V. Khajekar	Member
9.	Prof. D. D. Kale	Member
10.	Dr. S.D Jagtap	Member
11.	Dr. B.P. Thakur	Member
12.	Prof. S.A Tarate	Member
13.	Dr.N.T Shelke	Member
14.	Dr. A.K. Khamborkar	Academic Council Nominee
15.	Dr. A.J. Shivagaje	Academic Council Nominee
16.	Prof. S. Kawale	Vice-Chancellor Nominee
17.	Dr. S.B.Pathare	Alumni
18.	Mr. Anirudha Deshmukh	Industry Expert
19.	Mr. Vijay Narkhede	Invited Member

1. Prologue/ Introduction of the programme:

The Statistics minor introduces students to the quantitative aspects of research. Courses in the minor programme will improve knowledge and working understanding of basic statistical techniques and methods in many areas including agriculture, business, education, finance, insurance sector, and different branches of computer science.

Statistics is the science of collecting, presenting, analysing and interpreting data and communicating these findings to the society. Statistics will help in assessing public opinions through surveys to forecasting business trends. Statistics plays vital role in clinical research. There is huge scope in present as well as in future across countless industries, the government and academia for people who can provide this essential skill set.

Statistics is the science of making inferences and decisions under uncertainty. It is increasingly relevant in the modern world due to the widespread availability of and access to unprecedented amounts of data and computational resources. Unlike classical Statistics, the need to process and manage massive amounts of data has become a key feature of modern Statistics.

The undergraduate minor subject in Statistics focuses on providing students with a working knowledge base in Statistics, probability, and computation tools along with an ability to perform data analysis which is helpful in life science and IT sector.

2. Programme Outcomes (POs)

Students enrolled in the program complete a curriculum that exposes and trains them in a full range of essential skill sets and abilities. They will achieve the following objectives.

1. Student will achieve the skill of understanding the data.
2. Student will be able to develop the data collection methods.
3. Student will have skill to write a story using data visualization.
4. Student will understand the interdisciplinary approach to correlate the statistical concepts with concepts in other subjects.
5. Student will be made aware of history of Statistics and hence of its past, present and future role as part of our culture.
6. Students will demonstrate conceptual domain knowledge of the Statistics in an integrated manner.
7. Student will play the key role in management for effective functioning.

Credit Distribution: B.Sc. Statistics including Minor and OE and other courses.

	Type of Courses	III Yr	IV Yrs (Honours)	IV Yrs Research
Major Statistics	Discipline-Specific Courses (DSC)	46	74	66
	Discipline Specific Elective (DSE)	08	16	16
	Skill Enhancement Courses (SEC)	06	06	06
	Vocational Skill Courses (VSC)	08	08	08
	On-Job Training (OJT)	04	08	04
	Field Project (FP)	04	04	04
	Community Engagement and Service (CEP)	02	02	02
	Research project	00	00	12
	Research Methodology	00	04	04
	Indian Knowledge System	02	02	02
	Total (I, II and III Year)	80	124	124
Minor	Minor	20	20	20
Other Courses	Open Elective (OE)/ Multidisciplinary Courses	12	12	12
	Co-Curricular Courses	08	08	08
	Ability Enhancement Courses	08	08	08
	Value Education Courses	04	04	04
	Total	132	176	176

Programme Framework (Courses and Credits): B.Sc. Statistics (Minor)

Sr. No.	Year	Semester	Level	Course Type	Course Code	Title	Credits
1.	I	I	4.5	MNR-1	BS-ST101	Introduction to Basic Statistics	03
2.	I	II	4.5	MNR-2	BS-ST201	Statistics Using R	03
3.	II	III	5.0	MNR-3	BS-ST301	Python for Statistics	03
4.	II	IV	5.0	MNR-4	BS-ST401	Probability Distributions.	03

5.	III	V	5.5	MNR-5	BS-ST501	Statistical Model Predictive and Forecast Analysis	04
6.	III	VI	5.5	MNR-6	BS-ST601	Statistical tools for Testing of Hypothesis	04
							20

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
B.Sc. Statistics (Minor)

Title of the Course: Introduction to Basic Statistics								
Year: I				Semester: I				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
MNR-1	BS-ST101 T/P	02	01	03	60	30	70	100

Learning Objectives:

1. The students learn the scope of Statistics in different fields.
2. They understand about data collection methods, statistical tools and visualizations.
3. They learn various concepts of probability.
4. They able to understand the basic laws and axioms of probability.

Course Outcomes (Cos)

1. Student will achieve the skill of understanding the data
2. Students will be aware of the variety of fields in which Statistics is used widely.
3. Student will also gain the knowledge of computational tools
4. Student will learn the use of probability for better decisions
5. The course will give the overall idea about the uncertain situations that are expressed in probabilistic form

Detailed Syllabus:

Unit-I		**Introduction of Statistics**	5L
		Introduction of Statistics: Meaning of Statistics, Importance of Statistics, Scope of Statistics (Field of Industry, Medical Science, Economics, Social Science, Biological Science, Agriculture, and Psychology, Clinical Trial, Decision Theory). Concepts of big data, properties of big data- velocity, volume, varsity, verity Applications: Fraud detection in Banking, Costumer churn Types of data: Primary data and Secondary data. Data collection methods: register, questionnaire, interview method Categorical data, directional data, Binary data, time series data, Panel data and, Cross sectional data. Image, Voice, Audio, Animated images, Text, Video data.	
Unit-II		**Measures of Central Tendency and Dispersion**	12L
		Measures of Central Tendency: Concept and Definition of Central Tendency, Characteristics of good measures of Central Tendency.	

		Types of central Tendency: Arithmetic Mean (A.M): Definition of Mean, formulae for ungrouped and grouped data (without proof), Trimmed AM, Weighted AM. Median: Definition of Median, Formulae for ungrouped and grouped data, Graphical data representation, Partition values: Quartiles, Deciles, Percentiles, Quantiles, and their interrelationship Mode: Definition of Mode, formulae for ungrouped and grouped data. Graphical Representation. Empirical relation between mean, median and mode Partition values: Quartiles, Deciles, Percentiles, Quantiles, and their interrelationship Geometric mean: Definition of G.M, formulae Harmonic Mean: Definition of H.M, formulae merits and demerits of AM, Median, Mode, HM, GM, Relation between A.M, G.M and H.M. Measures of dispersion: Measures of Dispersion: Concept and Definition of dispersion Characteristics of good measures of Dispersion. Types of Dispersion: Absolute and relative measures of dispersion Range: Definition, formula of range, for ungrouped and grouped data, merits and Demerits of range Coefficient of range Mean deviation: definition, formula. for ungrouped and grouped data Merits and demerit. Coefficient of mean deviation, minimal property of MD. Variance and Standard deviation: definition, formula. for ungrouped and grouped data. Merits and demerit, combined variance. Minimal property of variance (Mean square Deviation, coefficient of quartile deviation and coefficient of mean deviation, coefficient of variation (C.V)	
Unit-IV		**Introduction of Probability**	07L
		Definition of Probability, Concept of deterministic and non-deterministic models (Random experiments). Definitions of sample space and types of sample space: Sample space, Types of sample space: finite, countably infinite and uncountable. Real life examples. Definitions of Event and types of event: Event and concept of occurrence of an event Elementary event, complement of an event, certain event, impossible event, Relative complement event, Mutually exclusive events or Disjoint events (for two and three events), mutually Exhaustive events (for two and three events), mutually exclusive and exhaustive events, Partition of sample space. Algebra of events including De Morgan's rules and its representation in set theory notation.	
Unit IV		**Conditional Probability and Independence**	06L
		Definition of conditional probability of an event. Results on conditional probability. Definition of independence of two events,	

		$P(A \cap B) = P(A) * P(B)$, Pairwise independence and mutual independence for three events, Multiplication theorem $P(A \cap B) = P(B)*P(A\|B)$. Generalization to $P(A \cap B \cap C)$. Prior and posterior probabilities. Bayes' theorem. Applications of Bayes' theorem in real life.	

List of the Practical's:

Sr. No.	**Title of the Practical**	No. of Practical's
1	Diagrammatic and Graphical Representation of Data	1
2	Measures of Central Tendency	1
3	Measures of Dispersion	1
4	Addition and Multiplication Principles of Probability	1
5	Computation of Probability of different events	1
6	Computation Conditional Probability and Independence of Events.	1
	Total	6

Suggested Readings/Material:

1. Agarwal, B. L. (2003). Programmed Statistics, Second Edition, New Age International Publishers, New Delhi.
2. Gupta, S. C. and Kapoor, V. K. (1983). Fundamentals of Mathematical Statistics, Eleventh Edition, Sultan Chand and Sons Publishers, New Delhi.
3. Mood, A.M. Graybill, F.A. and Boes, D.C. (2007): Introduction to the Theory of Statistics, 3rd Edn. (Reprint), Tata McGraw-Hill Pub. Co. Ltd.
4. Sarma, K. V. S. (2001). Statistics Made it Simple: Do it yourself on PC. Prentice Hall of India, New Delhi.
5. Snedecor G. W. and Cochran W. G. (1989). Statistical Methods, Eighth Ed. East-West Press.
6. Gupta, S. C. and Kapoor, V. K. (1997). Fundamentals of Applied Statistics, 3rd Edition, Sultan Chand and Sons Publishers, NewDelhi.
7. Mukhopadhyay P. (2015). Applied Statistics,Publisher: Books & Allied (P) Ltd.
8. Agarwal, B. L. (2003). Programmed Statistics, 2nd Edition, New Age International Publishers, NewDelhi.
9. Gore Anil, Pranjape Sharayu ,Kulkarni Madhav. Statistics for everyone. SIPF Acadamy Publisher, Nashik
10. Purohit, S. G., Gore S. D., Deshmukh S. R. (2008). Statistics Using R, Narosa Publishing House, NewDelhi.

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
B.Sc. Statistics (Minor)

Title of the Course: Statistics Using R								
Year: I				Semester: II				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
MNR-2	BS-ST201 T/P	02	01	03	60	30	70	100

Learning Objectives:

1. Student learn different imputation tools in R.
2. They able to discriminate between hardware and software.
3. They understand the different data visualization using R.
4. Student learns how to compute descriptive Statistics using R.
5. The overall logical thinking as a base of data science will be improved.

Course Outcomes (Cos)

1. Student will have sufficient computational skill through R- programming software.
2. Student will understand the difference in data visualization using R.
3. Student will understand the difference in output of analysis using R.
4. The overall logical thinking as a base of data science will be improved.
5. Student will have skill of result interpretation.

Detailed Syllabus:

Unit-I		**Introduction to R and imputation methods**	**09L**
	1.1	Computer hardware, computer software, Differences Between Hardware and Software, History of R language, Why R Language, features of R Programming Language, advantages of R Programming Language.	
	1.2	R Preliminaries: Assignment operator, Vector bases of R, functions in R, acceptable object names in R. Methods of Data input: c function, sequence function and sequence operator, scan function, rep function, data.frame function, matrix function, class function, importing data from excel, resident data sets. Data accessing or Indexing: Accessing data from data frame, subset and transform, List	
Unit-II		**Graphical and Diagrammatic Representation of Data using R**	**06L**
	2.1	Diagrams: Simple bar diagram, Subdivided bar diagram, Multiple bar diagram, Pie diagram, stem and leaf diagram.	

	2.2	Graphs: Boxplot, spike plot,histogram for both equal and unequal class intervals, frequency polygon, ogive curves, empirical distribution function, Saving the diagram and graphs using R	
Unit-III		**Basic Statistics using R**	**09L**
		Use of R commands to compute measures of Central Tendency, dispersion, skewness and kurtosis Computations of following measures for all types of data. a) Central tendency mean, mode, median, quartiles, deciles, percentiles, geometric mean and harmonic mean. b) Dispersion: variance, standard deviation, coefficient of variation,mean deviation. c) Skewness: Bowley's coefficient and Karl Pearson's coefficient of skewness.	
Unit- IV		**Probability Distribution and Its application using R**	**06L**
	4.1	Plotting of p.m.f. and c.d.f. of Bernoulli, Binomial, Hypergeometric, Geometric distribution, Poisson distribution and its applications.	
	4.2	Plotting of p.d.f. and c.d.f. of Uniform distribution, Exponential, Normal distribution and its applications.	

List of Practical:

Sr. No.	**Title of the Practical**	No. of Practical's
1	Data Input Methods	1
2	Diagrammatic and Graphical Representation	1
3	Measures of Central Tendency	1
4	Measures of Dispersion	1
5	Measures of Skewness and Kurtosis	1
6	Plotting of probability mass function, cumulative distribution function.	1
	Total	**06**

Suggested Readings/Material:

1. Crawley, M.J. (2006). Statistics – An introduction using R. John Wiley London.
2. Purohit, S.G., Deshmukh, S.R. and Gore, S.D., (2015). Statistics using R. Alpha Science International.
3. Verzani, J., (2018). Using R for introductory Statistics. CRC press.
4. Schumacker, R.E., (2014). Learning Statistics using R. Sage Publications.

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
B.Sc. Statistics (Minor)

Title of the Course: Python for Statistics								
Year: II				Semester: III				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
MNR-3	BS-ST301 T/P	02	01	03	60	30	70	100

Learning Objectives:

1) To learn installation of Python Programming.
2) To study uses of Python programming over other programming language.
3) To build programming logic among students.
4) To learn different libraries and packages in Python and its applications.

Course Outcomes (COs):

1) Students will get sound knowledge of python programming with lot of applications in industrial field.
2) Students will create different programs using various Python libraries.
3) Students will learn how to leverage the power of Python to solve tasks.
4) Students will be able to practicing and learning different concepts.

Detailed Syllabus:

Unit-I		**Introduction and Data types**	**09L**
	1.1	Introduction to Python: Installation and working with Python, Introduction of various IDEs, Python variables, Python basic Operators, Understanding python blocks.	
	1.2	Python Data Types, Declaring and using Numeric data types: int, float etc. Python Complex data types: Using string data type and string operations, Defining list and list slicing, Use of Tuple data type. String, List and Dictionary, Manipulations Building blocks of python programs, string manipulation methods, List manipulation. Dictionary manipulation, Programming using string, list and dictionary in-built functions. Working with Sets.	
	1.3	Python File Operations: Reading files, Writing files in python, Understanding read functions, read(), readline(), readlines(). Understanding write functions, write() and writelines(),Programming using file operations.	

		Database Programming: Connecting to a database, Creating Tables, INSERT, UPDATE, DELETE and READ operations, Transaction Control, Disconnecting from a database, Exception Handling in Databases.	
Unit-II		**Control structures, Functions and Modules**	**06L**
	2.1	Control statements: Conditional blocks using if, else and elif, for loop in python, Use of while loops in python, Boolean Operators *and*, *or* and *not*, Loop manipulation using pass, continue, break. Iterables, Lists and Iterators. Augmented Assignments ('+=','*='). Defining functions: def statement, Organizing Python codes using functions. Built-In range Function, Functions with Multiple Parameters. Random-Number Generation using random module.	
	2.2	Python Modules and Packages: Importing own module as well as external modules, Understanding Packages, Powerful Lamda function in python, Programming using functions, modules and external packages. Introduction to Formatted Strings.	
Unit-III		**Data Processing with NumPy and Pandas**	**06L**
	3.1	Installing and Importing NumPy, NumPy Arrays – indexing, slicing, reshaping, transpose, mathematical operations etc, Multi-dimensional NumPy Arrays, Computation on Arrays – broadcasting, comparisons, sorting, Fancy indexing etc , Structured Arrays. Different Functions on NumPy Array. Generating NumPy arrays programmatically (Generating random numbers, creating random Normal (Gaussian) distribution).	
	3.2	Introducing Pandas Objects – series, data frames, index. Operations on series and dataframes. Processing CSV and Excel files. Operations on Pandas Objects – indexing and selection, universal functions, missing data, hierarchical indexing, extraction using loc[] and iloc[]. Manipulation of data, Grouping data. Combining Dataset – concat and append, merge and join. Pivot table. Aggregation and grouping. Vectorized string operations.	
Unit-IV		**Data Visualization in Python**	**09L**
	4.1	Data Visualization using Matplotlib: Simple line plot, simple scatter plot, Simple bar diagram, Subdivided bar diagram, Multiple bar diagram, Histogram, Rod or Spike Plot, density and contour plot.	
	4.2	Formatting plots: Setting the transparency and size of axis labels, adding a shadow to the chart line, Adding a data table to the figure. Customizing Matplotlib with style. Drawing plots with colour markers, Setting ticks, labels, and grids, Adding legends and annotations.	
	4.3	Data Visualization using Seaborn library: Installing and loading Seaborn, scatter plots using seaborn, customizing seaborn plots, Adding titles and Labels, Creating Multiple Charts, Creating Categorical Plots.	

List of Practical:

Sr. No.	Practical Name	No. of Practical
1	List , Tuple, Dictionary and Set	1
2	Introduction to Formatted Strings, Creating and Formatting tables using Python	1
3	Control Structure and Defining Function	1
4	Descriptive Statistics using NumPy Library	1
5	Introduction to Pandas	1
6	Simple bar diagram, Subdivided bar diagram, Multiple bar diagram, Histogram, Rod or Spike Plot, density and contour plot using Matplotlib & Seaborn	1
	Total	6

Suggested Readings:

1. Data Visualization With Python For Beginners by Ai Publishing.
2. Python Data Visualization Cookbook, Second Edition by Igor Milovanović, Dimitry Foures, Giuseppe Vettigli.
3. Python for Programmers by Paul Deitel, Harvey Deitel.

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
B.Sc. Statistics (Minor)

Title of the Course: Probability Distributions								
Year: II				Semester: III				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
MNR-4	BS-ST401 T/P	02	01	03	60	30	70	100

Learning Objectives:

1) To study the concept of probability models and its need.
2) To study the different continuous and discrete distributions and its application.
3) To apply the knowledge of distribution theory to solve the real life problems.

Course Outcomes (COs):

1) Students able to learn different probability models and its need.
2) Students will get sound knowledge of about probability distributions.
3) Student will get an idea about the properties of the distributions and the interrelation among various distributions.
4) Students will able to solve different real life problems.

Detailed Syllabus:

Unit-I		**Discrete Uniform, Bernoulli and Binomial distribution.**	**09L**
	1.1	Concept of Probability Model, need of the probability model, patterns of probability model, independent and identical trials (Random variables), concept of p.m.f., p.d.f., CDF, MGF and CGF. **Discrete Uniform:** Real life applications, p.m.f., moments, measures of skewness, numerical example.	
	1.2	**Bernoulli Distribution**: Concept of Bernoulli trials, p.m.f. of Bernoulli distribution, definition of Bernoulli distribution with parameter p, notation, real life situations, plot of probability mass function, cumulative distribution function (CDF), plot of CDF, raw and central moments of Bernoulli distribution, MGF, Numerical examples.	
	1.3	**Binomial distribution**: Definition of binomial distribution with parameters n and p, notation, conditions for the applications of binomial distribution, real life situations, raw and central moments, coefficient of skewness and kurtosis (different cases such as $p > 0.5$, $p < 0.5$ and $p = 0.5$), MGF, distribution of $n - X$ if X has $B(n, p)$, recurrence relation between probabilities of binomial distribution, mode of the binomial distribution (case when $(n+1)\,p$ is integer and not integer), recurrence	

		relation between raw moment, additive property of binomial distribution, conditional distribution of X given $X+Y=n$, Numerical examples.	
Unit-II		**Hypergeometric and Poisson Distribution**	**06L**
	2.1	**Hypergeometric Distribution**: p.m.f. of hypergeometric distribution with parameters N, M and n, difference between hypergeometric and binomial distribution, conditions for the applications of hypergeometric distribution, real life situations, mean and variance, r^{th} factorial moment, binomial approximation to Hypergeometric distribution, numerical examples.	
	2.2	**Poisson Distribution**: Poisson distribution as a model for the situations where chances of occurrence of an event in a short time interval is with high probability, real life situations, definition of Poisson distribution, Notation, mean and variance, MGF, CGF, all the cumulants are equal for the Poisson distribution, coefficient of skewness and kurtosis, interpretation from these coefficients, nature of distribution $as\ m \to \omega$, additive property, Recurrence relation for the probabilities of Poisson distribution, mode of Poisson distribution, Numerical examples.	
Unit-III		**Geometric and Negative Binomial Distribution**	**06L**
	3.1	**Geometric distribution**: p.m.f. of geometric distribution (for both forms), definition of Geometric distribution, Notation, Geometric distribution as waiting time distribution, mean, variance, mode, moment generating function, CGF, deduction of first four central moments from CGF, recurrence relation between probabilities, distribution function, Lack of memory property and its interpretation, real life applications, Numerical examples.	
	3.2	**Negative Binomial Distribution (NBD)**: Sum of two (or more) geometric random variables as a NBD, derivation of p.m.f. of negative binomial distribution, mean, variance, relation between mean and variance, factorial moments, MGF, CGF, coefficient of skewness, additive property of NBD. Numerical examples.	
Unit-IV		**Continuous Uniform, Normal and Exponential Distribution**	**09L**
	4.1	**Uniform Distribution**: Probability density function (p.d.f.), Notation: X→ U [a, b] p. d. f., sketch of p. d. f. & c. d. f., mean, median, mode, variance, standard deviation, C.V., symmetry, M.G.F. and C.G.F., first four raw moments based on M.G.F, C.G.F., Distributions of i) $\frac{X-a}{b-a}$, ii) $\frac{b-X}{b-a}$, iii) Y= F(X), where F(X) is the c. d. f. of continuous r. v. X. Model sampling from Uniform distribution	
	4.2	**Normal Distribution**: Probability density function (p. d. f.), Notation: X~ N (μ, σ^2), mean, median, mode, variance, standard deviation, C.V., M.G.F., C.G.F., skewness, kurtosis, quartiles, deciles, percentiles, additive property, Standard Normal Variable (SNV), computations of normal probabilities using R.	
	4.3	Exponential Distribution: Probability density function (p. d. f.) Notation: X~ Exp(α), mean, median, mode, variance, standard deviation, C.V., M.G.F., C.G.F., lack of memory or forgetfulness property, Additive property.	

List of Practical:

Sr. No.	Practical Name	No. of Practical
1	Applications of Discrete Uniform, Bernoulli, Binomial distribution and computation of probabilities.	1
2	Applications of Hypergeometric, Poisson, Geometric and Negative Binomial distribution.	1
3	Fitting of Binomial, Poisson distribution and computation of expected frequencies.	1
4	Fitting of geometric, negative binomial distribution, and computation of expected frequencies.	1
5	Applications of continuous uniform, normal and exponential distribution	1
6	Fitting of Normal distribution.	1
	Total	6

Note: The End of Semester (EoS) Examination of following courses will be programming or software based

Course Type	Course Code	Course Title	Credits
MNR-2	BS-ST201 T	Statistics Using R	02
MNR-3	BS-ST301 T	Python for Statistics	02