



SLN DEGREE COLLEGE

Alamur Road, Anantapuramu

Affiliated to S.K. University

DEPARTMENT OF STATISTICS

Sri SLN Degree Anantapuramu started teaching the B.Sc. (statistics) course in the session 2016-2017. The Department of Statistics was initially situated in the Main building of the college,

The department, as part of its quality teaching, makes use of models, charts, LCD projector and collection of subject-related news clippings. Class seminars, group discussions, quiz programmes and special guest lectures by university professors also form part of effective teaching and learning.

The department is maintaining a departmental library to enable the students to utilize the knowledge resource for their academic advancement. There is a laboratory where advanced scientific calculators are used to enable the students to have good exposure to data collection, sampling techniques, statistical quality control etc. The lab is also utilized to introduce to the students there search potential areas like operations research, stochastic processes and statistical quality control.

To build-up statistical skills and abilities and expose them to the application part of the subject, the students are encouraged to collect data from various sources including newspapers and analyze it by applying the statistical techniques. With this kind of employment orientation many of our students are trained to face interviews, so as to earn placements in reputed companies.

The department is also extending academic support to BCOM, Bio-Technology and Commerce including the Department of Statistics. Apart from academic pursuits, the teachers have also taken interest in the matters of advising the students on higher studies and career building, personal and financial including health problems. It has been inculcating interest in the student community a sense of social responsibility.

Vision:

“Education for all and Quality education at affordable cost”.

Mission:

“To bring out the best in each and every student and motivate them to carve their path in contemporary society emboldened with knowledge and skills, keeping morality and ethics as underlying forces”.

Courses/Programs offered:

Level	Course
UG	B.Sc(MSCS)-Mathematics, Statistics, ComputerScience

Course Structure under CBCS:

Year	Sem	Course	Title of the Course	Internal Marks	External Marks	Total Marks
I	I	I	Descriptive Statistics and Probability	25	75	100
			Practical Course- I	-	50	50
	II	II	Mathematical Expectation and Probability Distributions	25	75	100
			Practical Course-II	-	50	50
II	III	III	Statistical Methods	25	75	100
			Practical Course-III	-	50	50
	IV	IV	Statistical Inference	25	75	100
			Practical Course-IV	-	50	50
III	V	V	Sampling tectonic and analysis of variance	25	75	100
			Practical Course- V	-	50	50
		VI	Quality and Reliability	25	75	100
			Practical Course-VI	-	50	50
	VI	VII-C	Applied Statistics	25	75	100
			Practical Course-VII	-	50	50
		VIII-C1	Operation research	25	75	100
			Practical Course-VIII	-	50	50
		VIII-C2	NUMERICALANALYSIS	25	75	100
			Practical Course-IX	-	50	50
	VIII-C3	Project work	50	100	150	

- Participation of Interdisciplinary Courses and the departments/units involved :NIL
- Participation of the department in the courses offered by other departments :NIL
- Coursescollaborationwithotheruniversities,Industries,foreigninstitutions :NIL
- Details of courses/programmes discontinued(if any) with reasons :NIL

Number of teaching posts:

Post	Sanctioned	Filled
Teaching	01	01

Program out comes, Program specific out comes& Course outcomes:

Program Outcome:

When the student joins college after school they are free to make their own choices which are very instrumental in changing their attitude towards life and society. It is very important to give them an appropriate and conducive environment to learn and grow.

After completion of the degree apart from his/her specialty in the program of his/her choice the student learns a lot during their three year stay that makes them mature enough to take the right decisions at the right time. Students develop analytical thinking and good communication skills during classroom teaching (through projects/presentation/practical) and also as they participate in various activities both at departmental as well as college level.

Being a Central University, the student gets a chance to communicate with students of other states of India which makes them culturally sensitive and socially interactive.

As part of various departmental /college seminars and workshops he learns to respect and protect the environment. These programs also help in generating gender sensitization and building of ethical values to become are responsible citizen when he/she graduates from the college

Program Specific Outcome:

Statisticsisthelanguageoftheuncertaintiesriddledmoderninformationage.Thisprogramisa compact combination of detailed courses of Statistics and adequate amount of courses on ComputerScience,MathematicsandOperationsresearchtocomplementandofferdiversificationafterthecompletionofprogram.

The thrust of the program is to provide a platform for pursuing higher studies leading to post-graduate or doctorate degrees. Along with this students are equipped with skill enhancement courses like Research methodology, Statistical packages and R language. Apart from this there is a range of Generic electives courses in Economics, Commerce, Computer Science etc.

Which students choose as per their interest and aptitude. This enhances theoretical rigor withtechnicalskillswhichpreparestudentstobecomegloballycompetitivetointerintoapromisingprofesional life even after graduation.

This program offers a range of traditional avenues in academics, Govt. Service, IAS, Indian Statistical/ Economic Services, Industries, Commerce, Investment Banking, Banks and Insurance Sectors, SO and NSSO, Research Personnel/Investigator in Govt. organizations such as NCAER, IAMR, ICMR, Statistical and Economic Bureau & various PSUs., Market Research, Actuarial Sciences, Biostatistics, Demography etc. It also provides an array of non-traditional employment avenues ranging from Stockbrokers Analyst, Sports Analyst, Poll Analyst, Business Analyst, Financial Analyst, Content Analytic

Course: BSC statistics	Outcomes
Descriptive statistics and probability theory	Students learn to design data collection plans and basic tools of Descriptive statistics.
Regression analysis and discrete distributions	Student learn to i) identify the relationship between two variables using Scatter plot)Interpret a sample correlation.
Continuous probability distribution	Students learn different types of continuous distribution with their Properties and applications.
Sampling theory	Understand the concept of sampling distribution of a statistic and its properties, difference between parameter and statistic.

Statistical inference-I Statistical quality control	Students are able to describe the properties of unbiasedness. They are also learning to identify the null hypothesis, alternative hypothesis and test statistic. Students are able to explain the different meanings of the quality concept and its influence.
Statistical inference-II Operations research	Students learn to i) identify situations where one-way ANOVA is appropriate ii) identify the degrees of freedom associated with each sum of squares, iii) Interpret an ANOVA table. i) Formulate and solve LPP, Assignment problems, Transportation problems. ii) solve the zero-sum two-person game

Course outcomes:

SEMESTER-I(PAPER I)

TITLE OF THE COURSE :Descriptive Statistics

Students will acquire

- Knowledge of Statistics and its scope and importance in various areas such as medical, Engineering, agricultural and social sciences etc.
- Information about various statistical organizations in India and their functions for societal developments,
- Knowledge of various types of data, their organization and evaluation of summary measures such as measures of central tendency and dispersion etc.
- knowledge of other types of data reflecting quality characteristics including concepts of independence and association between two attributes,
- Insights into preliminary exploration of different types of data.
- Knowledge of correlation, regression analysis, regression diagnostics, partial and multiple correlations.

SEMESTER-II(PAPER II)

TITLE OF THE COURSE:Probability Theory and Distributions

Students will acquire

- ability to distinguish between random and non-random experiments,
- Knowledge to conceptualize the probabilities of events including frequentist and axiomatic approach. Simultaneously, they will learn the notion of conditional probability including the concept of Bayes' Theorem,

- knowledge related to concept of discrete and continuous random variables and their probability

y distributions including expectation and moments,

- knowledge of important discrete and continuous distributions such as Binomial, Poisson, Geometric, Negative Binomial and Hyper-geometric, normal, uniform, exponential, beta and gamma distributions,
- Acumen to apply standard discrete and continuous probability distributions to different situations

SEMESTER-III(PAPERIII)

TITLEOFTHECOURSE: StatisticalMethods

Studentswillacquire:

- (a) Acquaintingthestudentwithvariousstatisticalmethods.
- (b) To introduce students to different measurement scales, qualitative and quantitative and discrete andcontinuous data.
- (c) To help students to organize data into frequency distribution graphs, including bar graphs, histograms,polygons, ando-gives.
- (d) Students should be able to understand the purpose for measuring central tendency, variation, skewnessandkurtosisandshouldbeable tocompute them aswell.
- (e) Students should be able to understand and compute various statistical measures of correlation, fitting ofcurveandregression
- (f) IntroductiontoStatistics,definitionsanddataclassification,typesofstudiesandtypesofsamples
- (g) Graphicaldisplaysofdata,frequencydistributions,analyzinggraphs
- (h) Numericaldescriptionof data,measuresofcentertendency,measures of dispersion,skewness andkurtosis
- (i) Correlationandregression
- (j) Theoryofattributes

SEMESTER-IV(PAPERIV)

TITLEOFTHECOURSE:StatisticalInference

Thestudentwillacquire

- (a) Conceptoflaw largenumbers and theiruses
- (b) Conceptofcentrallimit theoremanditsusesinstatistics
- (c) concept of random sample from a distribution, sampling distribution of a statistic, standard error ofimportantestimatessuchasmeanandproportions,
- (d) knowledge about important inferential aspects such as point estimation, test of hypotheses andassociatedconcepts,
- (e) knowledgeaboutinferences fromBinomial,Poissonand Normaldistributionsasillustrations,
- (f) knowledgeabout orderstatisticsand associateddistributions,
- (g) Conceptaboutnon-parametricmethodandsomeimportantnon-parametrictests.

SEMESTER-V(PAPERV)

TITLE OF THE COURSE: Sampling Techniques and Designs of

Experiments The students shall get

- (a) basic knowledge of complete enumeration and sample, sampling frame, sampling distribution, sampling and non-sampling errors, principal steps in sample surveys, limitations of sampling etc.,
- (b) Introduced to various statistical sampling schemes such as simple, stratified and systematic sampling.
- (c) an idea of conducting the sample surveys and selecting appropriate sampling techniques,
- (d) Knowledge about comparing various sampling techniques.
- (e) carry out one way and two way Analysis of Variance,
- (f) understand the basic terms used in design of experiments,
- (g) use appropriate experimental designs to analyze the experimental data,
- (h) apply Multiple range tests, the multiple t-test,

- (i) Give statistical interpretation of the experimental results obtained. The fundamental concepts of design of experiments.
- (j) Introduction to planning valid and economical experiments with given resources.
- (k) Completely randomized design
- (l) Latin square design.
- (m) Balanced incomplete block design.
- (n) Full and confounded factorial designs with two and three levels.
- (o) Fractional factorial designs with two levels.

SEMESTER-V(PAPERVI)

TITLE OF THE COURSE: Quality and Reliability

The students shall get

- a. Describe quality control methods
- b. Understand the use of statistical process control
- c. Describe & apply control charts
- d. Distinguish Mean, Range, p, np= and c-charts
- e. Define process capability
- f. Describe & apply capability indexes
- g. Define six-sigma capability

SEMESTER-VI(PAPERVII)

TITLE OF THE COURSE: Applied Statistics

The students shall get

After going through this course, the students will have an idea of This course is meant to acquaint the students with some important but useful concepts on topics in time series analysis so that the students can get an important background material for taking up an advanced course in financial econometrics and data analysis. After completion of this course, the students will know about

- (a) time series data, its application to various fields and components of time series,
- (b) fitting and plotting of various growth curves such as modified exponential, Gompertz and logistic curve,
- (c) fitting of trend by Moving Average method,
- (d) measurement of Seasonal Indices by Ratio-to-Trend, Ratio-to-Moving Average and Link Relative methods,
- (e) Calculation of variance of random component by vitiate component method,
- (f) Application to real data by means of laboratory assignments.
- (g) income distributions and their fitting in real life situations,

- (h) commonly used measures of demography pertaining to its three basic aspects, viz. the fertility, mortality and migration,
- (i) various data collection methods enabling them to have a better insight in policymaking, planning and systematic implementation,
- (j) Construction and implication of life tables,
- (k) Population growth curves, population estimates and projections,
- (l) Real data implementation of various demographic concepts as outlined above through practical assignments.

SEMESTER-VI(PAPERVII-CLUSTER-I)

TITLE OF THE COURSE: Operation research

The students shall get

The 'Operations Research' is not only confined to any specific agency like defence services but today it is widely used in all industrial organizations. It can be used to find the best solution to any problem be it simple or complex. It is useful in every field of human activities. Thus, it attempts to resolve the conflicts of interest among the components of organization in a way that is best for the organization as a whole. Main fields where OR is extensively used are:

1. National Planning and Budgeting
2. Defense Services
3. Industrial Establishment and Private Sector Units
4. Research & Development and Engineering

SEMESTER-VI (PAPER VII-CLUSTER-II)

TITLE OF THE COURSE: NUMERICAL ANALYSIS

The students shall get

SEMESTER-VI (PAPER VII-PROJECT WORK)

TITLE OF THE COURSE : Project Work

Students will opt for a compulsory industrial Project in Semester VI. At the end of this project, students will be in a position to

- (a) Analyze and interpret and take appropriate decisions in solving real life problems using statistical tools.
- (b) use different Statistical packages for graphical interface, data analysis and interpretation,
- (c) Write a systematic Statistical project report.

Head of the Department Profile:

Name: Mr.P.ANANTHA REDDY

Qualification: MSC.,

Experience: 14

Other Positions:



Name	Qualification	Designation	Teaching Experience
MR. P.ANANTHA REDDY	M.Sc.,	Lecturer in Statistics	14

List of Visiting Faculty:

Name	Designation	Institute	Teaching Experience
Mr.A.KULLAYASWAMI	Lecturer	SRGovt.Degreecollege, Punganur	16

Percentage of Lecturers delivered and Practical Classes handled:

Name of the faculty	Total work load	Classes handled	Practical Classes handled
MR. P.ANANTHA REDDY	30	22	08

Number of academic staff(technical)and administrative staff:

	Sanctioned	Filled
Lab Assistants	NIL	NIL
Lab Attendants	NIL	NIL

Qualification of Teaching Faculty:

PDF	PhD	M.Phil	PGwithNET/SLET	PG
-	-	-	-	01

- List of eminent academicians and scientists/visitors to the department: NIL
- Seminars/Conferences/Workshops organized : NIL

Details of Infrastructure facilities: Library:

There is a central library to cater to the need of the students.

Department does not have a library. But the complimentary copies provided by different publisher are provided in the department for the use of the student.

Internet facility for staff and students:

Yes(only for staff)

Teaching methods adopted to improve student learning:

- Lecture
- Practical
- Assignments
- PPT's
- Classseminars
- Quiz
- Questionandanswers
- Labdemo
- Questionpaperdiscussion
- Test

Library books:

- ❖ Fundamental of statistics
- ❖ Probability statistics
- ❖ Operation research
- ❖ Telugu Academy Books, first year statistics
- ❖ Telugu Academy Books, second year statistics
- ❖ Telugu Academy Books, first year statistics

SWOC analysis of the department and future plans:

Strength:

- Qualified and highly credentialed faculty good diversity in experiences



- Good equipments in laboratories and other facilities Excellent support from the senior administration



Weakness: Limited number students in the classrooms Collaboration with research institutions

Opportunities:



Increase awareness for physics as an integral part of future education
Creation of a vibrant academic atmosphere in the department with the help of reputed and experienced teachers.

- To prepare our students for entrance exam for PG courses & competitive exams

Challenges:

- To maintain the academic standard of the department in spite of the weakness mentioned earlier.
 - To increase high scientific temper among students.
 - To link the curriculum teaching learning process with need of industries.
- Motivating students to take projects
 - Motivating students to take jobs in industry, defense research laboratories, MPSC, UPSC and academic institutes.



STATISTICS NSSO QUIZ PROGRAM AT Govt. Degree College, Anantapuramu



National Quiz program conducting by NSSO at GOVT Degree College Anantapuramu



National Statistics Day at SLN Degree College Anantapuramu chief guest Dr B VenkataRamana



Seminar on Operational Research