

PROGRAMMES OF GRADUATE STUDIES

General Information

Graduate program has been offered at the Department of Statistic and Operations Research, King Saud University in 1400/1401 H with two students only. A firmly established tradition of scholarship continues to attract the foremost thinker and researchers to our department. We invite graduate students to join us in our pursuit of excellent in research. Currently there are 20 students in the program (Men and women). Our program has been improved in such way to help our society through the modern facilities. The Department of Statistics and Operations Research offers programs leading to

- 1- M. Sc. in Statistics
- 2- M. Sc. in Operations Research
- 3- Ph. D. in Statistics

Programs of M.Sc. in Statistics and M.Sc. Operations Research

(a) Aims of the programs

- 1- Offering A high training in statistics and operations research for distinguish students holding the bachelor degree is statistics, operations research, mathematics or any other related fields.
- 2- Provide the society with statisticians and operations research people they have a very good motivations in dealing with statistical analysis, computing, statistical software packages; working with large data sets; exploratory data analysis; graphical methods; statistical consulting practice.
- 3- Provide a strong background for students wish to continue for Ph. D. in Statistics and in Operations Research.

(b) Majors and Fields

- 1- Statistics
- 2- Operations Research

(c) Admissions

See the admission requirements in the Academic Calendar of the Graduate Studies.

(d) Requirements

- For M.Sc. in Statistics

- 1- The student must successfully complete 24 credit hours of courses included in M.Sc. Academic Calendar (in accordance with the bylaws of graduate studies). These courses divided to 15 compulsory credit hours and 9 optional credit hours that he/she can select.
- 2- A Thesis satisfies some regulations, guidelines and specifications of the Graduate College should be submitted.

- For M.Sc. in Operations Research

- 1- The student must successfully complete 24 credit hours of courses included in M.Sc. Academic Calendar (in accordance with the bylaws of graduate studies). These courses divided to 15 compulsory credit hours and 9 optional credit hours that he/she can select.
- 2- A Thesis satisfies some regulations, guidelines and specifications of the Graduate College should be submitted.

(e) List of Statistics Compulsory courses

Course No.	Name of course	Unit
STAT 520	Theory of statistics I	3
STAT 531	Analysis of variance	3
STAT 533	Regression analysis	3
STAT 559	Theory of statistics II	3
STAT 570	Stochastic processes I	3

List (a) Statistics Optional courses

Course No.	Name of course	Unit
STAT 523	Special topics in Statistics	3
STAT 532	Analysis of biomedical categorical data	3
STAT 534	Design of experiments	3
STAT 536	Nonparametric statistics	3
STAT 556	Linear models	3
STAT 574	Survival analysis	3
STAT 576	Sample survey	3
STAT 577	Applied Time Series Analysis	3
STAT 578	Applied Multivariate analysis	3
STAT 579	Biostatistics	3
OR 563	Theory of reliability and life testing	3

List of Operations Research Compulsory courses

Course No.	Name of course	Unit
STAT 520	Theory of statistics I	3
STAT 559	Theory of statistics II	3
OR 530	Theory of nonlinear programming (I)	3
OR 554	Network flows	3
OR 570	Stochastic models in O. R. (I)	3

List (b) Operations Research Optional courses

Course No.	Name of course	Unit
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OR 534	Nonlinear programming methods (II)	3
OR 537	Integer and combinatorial optimization	3
OR 543	Simulation and modeling	3
OR 553	Sequencing and scheduling	3
OR 563	Theory of reliability and life testing	3
OR 574	Stochastic models in O. R. (II)	3
OR 575	Advanced forecasting	3
OR 579	Special topics in O. R.	3

PROGRAMME OF STUDY FOR Ph.D DEGREE IN STATISTICS

Aims of the programme

The main purpose of the Ph. D. programme is to provide an advanced resultant of knowledge with the statistical theory and methodology that equip the candidate with the ability of self-dependent research.

Conditions for admission

An applicant for admission into a Ph.D. programme must:

- (i) Hold a M.Sc. degree in Statistics from King Saud University or its equivalent.
- (ii) Pass an interview held by a subcommittee of the department.

Degree requirements

- (i) The student must successfully complete 18 credit hours of courses (in accordance with the bylaws of graduate studies) of which a maximum of 6 can be chosen from M.Sc. courses which he/she has not taken previously.
- (ii) Pass a TOEFL exam or equivalent with a score not less than 450. This should be accomplished before starting thesis work.
- (iii) The student must pass a comprehensive examination to be held subject to the regulations and guidelines of the Graduate College. This exam contains 2 parts; written and oral. The written part involves 3 papers, with at least 3 hours time for each. Two papers are in the major specialty of the general programme of the department covering at least two thirds of subspecialties in the department, the third paper is in the special area of interest for the student.
The oral examination is held in an at least 2 hours session covering all subjects in which the student has already been examined.
- (iv) The student must present a research thesis on a chosen topic in Statistics (theory or methods), reflecting creativity and originality.

(2) List of courses for the Ph.D. degree programme

(i) Compulsory list

STAT 611	Probability theory I	(3)
STAT 621	Statistical inference I	(3)
STAT 622	Statistical inference II	(3)

(ii) Optional list

STAT 612	Probability theory II	(3)
STAT 613	Stochastic processes II	(3)
STAT 623	Survival analysis	(3)
STAT 624	Theory of nonparametric statistics	(3)
STAT 625	Advanced topics in experimental design	(3)
STAT 626	Theory of time series	(3)
STAT 627	Generalized linear models	(3)
STAT 628	Multivariate analysis	(3)
STAT 629	Special topics in statistics	(3)

Courses - description: