Kingdom of Saudi Arabia
Ministry of Higher Education
Majmaah University
Zulfi, College of Sciences
Mathematics Department
äهمصح Majmaah University


## COURSE CLASSIFICATION FORM

| Course Number/Name | STAT 203 Probability I |  |  |
| :---: | :---: | :---: | :---: |
| Prepared by | Dr. Ahmed Elmoasry |  |  |
| Program Learning Outcomes | $\begin{aligned} & \hline \text { Levels* } \\ & (0,1,2, \\ & \mathbf{3 , 4 , 5 )} \\ & \hline \end{aligned}$ | Relevant Activities | Assessment Methods/Metrics |
| a1. Apply fundamentals and concepts of mathematics. | 5 | Lectures, Assignments, | project |
| a2. Apply fundamentals and concepts General sciences and | 4 | Assignments on creativity dealing with | Lectures, Quizzes, Homework, Exam |
| a3. Realize Social and ethical cead | 3 | Design project; <br> Lectures and assignments | project |
| b1. Read and construct mathematical arguments and nronfs. |  | Design project; | Project, Lectures, Quizzes, Homework, Exam |
| b2. Apply critical thinking skills to solve problems that can be modeled mathematically. | 5 | Lectures and assignments. | project |
| c 1 . Work independently and | 4 | Design project Home warle | project |
| c2. Bear responsibility for different cituations | 3 | Design project in which students demonstrate basic | project |
| c3. Realize codes of ethics and their importance. | 5 | Design project; Lectures | Lectures, Quizzes, Homework, Exam |
| d1. Communicate a depth and breadth of mathematical knowledge, both orally and in writino | 4 | Design project in which students show ability to apply principles of Mathematical and Statistical data | project |
| d2. Ability to Organize, connect and communicate mathematical and alanrithmic idoac | 3 | Design project; Lectures and assignments | Project, Lectures, Quizzes, Homework, Exam |
| d3. Critically interpret numerical and graphical data. | 5 | Design project; Lectures and assignments | project |
| e1. Use computer and its applications as an office tool | 4 | Lectures and oral discussions on identification of the | project |

* Please mark (or type) High (5), Medium-High (4), Medium (3), Low-Medium (2), Low (1) or Not At All (0) indicating the level to which you believe, as an instructor, the students have achieved these outcomes in this course.

Kingdom of Saudi Arabia Ministry of Higher Education<br>Majmaah University<br>Zulfi, College of Sciences Mathematics Department

## الـمـمـلكـة الـعربيـة الـسـعوديـة <br> وزارة الـتّعلـيـم الـعـــلـــي <br>  <br> قسم الرياضيات

## Course Objectives and Outcomes

## Course Number: STAT 203 Course Name: Probability I

## Prepared by: Dr. Ahmed Elmoasry

Table 1: Relationship of course objectives/outcomes with PLO and ASIIN Criteria

| Course Objectives: | Course Outcomes: | ASIIN | PLO |
| :---: | :---: | :---: | :---: |
| 1. This course is designed to follow on from, and reinforce, A level mathematics. | 1. solve complex problems in Probability. | c | a |
|  | 2. Apply knowledge, as needed, to design a satisfactory system to achieve a final successful project. | c, e | a |
| 2. To build a logical structure on probabilistic intuition, and to cover such peaks of the subject as the Strong Law of Large Numbers as well as more modern topics. | 1. have a systematic and coherent understanding of theoretical mathematics in the field of Probabilitv. | c, e | A,b |
|  | 2. Synthesize information that the team gathers to solve open-ended problems. | e | A,b |
|  | 3. Conceptualize alternative concepts, evaluate alternatives, select preferred alternative, and imolement the preferred proiect | c, e | A,b |
| 3. The emphasis is upon the understanding of real-life statistical problems, and develops the basic concepts and statistical methods by example. | 1. have acquired coherent body of knowledge of these subjects demonstrated through one or more of the following topic areas: <br> Probability as a measure. <br> Random variables. <br> Convergence Theorems. <br> Probability under partial information. <br> Applications of Probability. <br> 2. students will have basic mathematical skills in : Modeling, computation <br> 3. students will have basic skills in exploratory data analysis. | a, c | B,c |
| 4. Broaden skills in team work, critical thinking, communication, planning and scheduling through design project | 1. Learn successful group interaction for a project | d, g | C, d |
|  | 2. Produce final design report as part of their deliverable | g | C, d |
|  | 3. Deliver a final oral presentation for their project. | g | C,d |
| 5. Enable students to consider safety, ethical, legal, and other societal constraints in execution of their design projects | 1. Understand environmental and legal issues | h | d |
|  | 2. Understand the importance of professional and ethical | f | d |
|  | 3. Understand the impact of aesthetic and human aspects | h | d |
|  | 4. Select from standard tables and catalogues machine elements, components and materials given appropriate performance requirements | c | e |

## Course Objectives and Outcomes

Table 2: Methods of assessment of course syllabus

| Assessment Method | Number/Type |  |  |  | Instructor Assessed | TA/Grader Assessed | Peer/Self Assessed |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Homework | 5 homework assignments |  |  |  | x |  |  |
| Mid Terms/Final Exams | 2 mid-term; 1 final exam |  |  |  | X |  |  |
| Quizzes | One biweekly |  |  |  | x |  |  |
| Individual Projects | 1-2 wks | 3-4 wks | 1/2 sem | Full sem |  |  |  |
| Team Projects | 1-2 wks | $3-4 \mathrm{wks}$ | 1/2 sem | Full sem | x |  | x |
| Lab Assignments |  |  |  |  |  |  |  |
| Computer Assignments |  |  |  |  |  |  |  |
| Computer Tools Used |  |  |  |  |  |  |  |
| Oral Presentations | one |  |  |  | x |  | x |
| Written Reports | one |  |  |  | x |  |  |
| Other | Design project (project binder) |  |  |  | x |  |  |

## Learning Outcomes Assessment

 Second Semester-1434-1435 H$$
\begin{aligned}
& \text { تقويم مخرجات التعلم } \\
& \text { الفصل الثثاني - \& }
\end{aligned}
$$


مغرجات التعلم للمقرر

$\qquad$


Head of Department: Prof. Dr. Adel M. Zaki رئيس القسم: أ.د. عادل محمد زكي
Signature:

| $\mathbf{a}$ | b | c | d | e |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  |  |  |  |  |
| $75 \%$ | $73 \%$ | $75 \%$ | $69 \%$ | $\# \# \# \#$ |

Students Outcomes Survey Analysis
STAT 203

| ID | Outcome A |  |  | Outcome B |  | Outcome C |  |  | Outcome d |  |  | O. E |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | a1 | a2 | a3 | b1 | b2 | c1 | c2 | c3 | d1 | d2 | d3 | e1 |
| $4 \mathrm{E}+08$ | 4 | 0 | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 4 | 4 | 0 |
| $4 \mathrm{E}+08$ | 4 | 2 | 5 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 5 | 4 |
| $4 \mathrm{E}+08$ | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 4 |
| 3E+08 | 5 | 1 | 5 | 5 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 3 |
| 3E+08 | 4 | 5 | 3 | 5 | 4 | 5 | 5 | 5 | 3 | 5 | 4 | 3 |
| 3E+08 | 4 | 0 | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 4 | 4 | 0 |
| 3E+08 | 5 | 0 | 3 | 4 | 4 | 5 | 5 | 2 | 4 | 4 | 3 | 4 |
|  | 4.43 | 1.86 | 4.14 | 4.71 | 4.43 | 4.71 | 4.43 | 4.43 | 4.43 | 4.29 | 4.14 | 2.57 |
|  | 89\% | 37\% | 83\% | 94\% | 89\% | 94\% | 89\% | 89\% | 89\% | 86\% | 83\% | 51\% |
|  |  | 70\% |  |  | \% |  | 90\% |  |  | 86\% |  | 51\% |

log descrif
:-requistis
t Book Evaluati
omputer Usage Evaluatior


| 3 a | 3 b | 3 c |
| ---: | ---: | ---: |
| 5 | 5 | 5 |
| 3 | 4 | 4 |
| 5 | 5 | 5 |
| 5 | 4 | 5 |
| 5 | 4 | 5 |
| 4 | 3 | 3 |
| 3 | 3 | 3 |
| 4.29 | 4.00 | 4.29 |
| $86 \%$ | $80 \%$ | $86 \%$ |
| $84 \%$ |  |  |


| 4 a | 4 b | 4 c | 4 d | 4 e |
| ---: | ---: | ---: | ---: | ---: |
| 5 | 5 | 5 | 5 | 5 |
| 3 | 4 | 5 | 3 | 5 |
| 5 | 4 | 4 | 4 | 5 |
| 1 | 1 | 1 | 2 | 2 |
| 2 | 2 | 2 | 2 | 1 |
| 2 | 2 | 2 | 2 | 2 |
| 4 | 3 | 5 | 3 | 4 |
| 3.14 | 3.00 | 3.43 | 3.00 | 3.43 |
| $63 \%$ | $60 \%$ | $69 \%$ | $60 \%$ | $69 \%$ |
|  |  |  |  |  |



| $a$ | $b$ | $c$ | $d$ | $e$ |
| :--- | :--- | :--- | :--- | :--- |


| $2 a$ | $2 b$ | $3 a$ | $3 b$ | $3 c$ | $4 a$ | $4 b$ | $4 c$ | $4 d$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $4 e$ |  |  |  |  |  |  |  |  |
| $89 \%$ | $80 \%$ | $86 \%$ | $80 \%$ | $86 \%$ | $63 \%$ | $60 \%$ | $69 \%$ | $60 \%$ |



| $70 \%$ | $91 \%$ | $90 \%$ | $86 \%$ | $51 \%$ |
| :--- | :--- | :--- | :--- | :--- |

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وزارة اللتّعلـيـم الـعــلـي
جـامـعـة الـــجـــــــة

قسم الرياضيات

## Instructor Course Evaluation Form

The purpose of this evaluation is to collect instructor feedback for improving this course and the Mathematics program. Information will also be used for program accreditation purposes.

## I. Program Learning Outcomes Evaluations

| Course Number/Name | STAT 203 Probability I | Semester | First 1434/1435 |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Instructor | Dr. Ahmed Elmoasry |  |  |  |  |  |
| The course listed above is designed for students to achieve the following outcomes at a Not At All, <br> Low, Low- Medium, Medium, Medium-High or High level. |  |  |  |  |  |  |
| Please mark (or type) High (5), Medium-High (4), Medium (3), Low-Medium (2), Low (1) or Not At <br> All (0) indicating the level to which you believe, as an instructor, the students have achieved these <br> outcomes in this course. |  |  |  |  |  |  |
| Program Learning Outcomes | Relevant Activities | $\mathbf{5}$ | $\mathbf{4}$ | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ |

## II. Catalog Description, and Course Prerequisites Evaluations:

Based on your experiences in the course, please respond by circling the most appropriate number. Circle N/A for items that are not applicable, or if you have no opinion.

| Catalog Description 1434-1435 | Random vectors - Bivariate distributions <br> Joint probability mass function, joint probability densty function, Independence, conditional distributions, <br> Expectation, Covariance, Correlation Coefficient, <br> Variance of sum or difference of two random variables and the Moment <br> Generating Functions of Bivariate Random Variables) <br> Random samples - Distribution of sample mean - Law of large numbers - Central limit theorem <br> - Elementary statistical Inference - (estimation theory) -Methods and properties of point estimation - MLE . |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Course Prerequisites: | STAT 202 | Circle One (5=Strongly Agree; 1=Strongly disagree) |  |  |  |  |  |
| 2a. Do you believe that the catalog description (above) is accurate for this course? |  | 5 | 4 | 3 | 2 | , | N/A |
| 2b. Do you believe that the course prerequisites (above) are appropriate for this course? |  | 5 | 4 | 3 | 2 | 1 | N/A |
| 2 c . If not, please list any prerequisites you believe are not appropriate for this course. |  |  |  |  |  |  |  |

III. Textbook(s) and/or Lab Manuals (if applicable) Evaluations:

IV. Computer usage (if applicable) Evaluations:

| Computer usage (if applicable): | Circle One <br> (5=Strongly Agree; $\mathbf{1 = S t r o n g l y ~}$ <br> Disagree) |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4a. Was the use of computer well integrated with the course? | 5 | 4 | 3 | 2 | 1 | N/A |
| 4b. Was the computer lab adequately equipped with well- <br> maintained and updated computers? | 5 | 4 | 3 | 2 | 1 | N/A |
| 4c. Was the computer lab equipped with sufficient number of <br> computers? | 5 | 4 | 3 | 2 | 1 | N/A |
| 4d. Were the special software packages (MATLAB, <br> SPSS, C+, FORTRAN, etc) available and accessible? | 5 | 4 | 3 | 2 | 1 | N/A |
| 4e. Was adequate technical support available when needed? | 5 | 4 | 3 | 2 | 1 | N/A |

جامعة المجمعة
كلية اللعلوم بالزلفي الفي
نموذج تُحويل العلامـات النهائي من مئوي الى أحرف لطلبةّ البكالوريوس

|  |  | الـني | الفصل الإراسي |
| :---: | :---: | :---: | :---: |
| STAT203 | رقٌ المادة | الرياضيات | القّ |
| Probability I |  | د. أحمد | استّاذ المادة |
| 0 | عدد الطبة الغانيبين عن التّانيّي | 8 | عدد الطلبة المسج |
| 0 | عدد الطلبة الراسبين | 8 |  |
| F | اللعلامةٌ اللانيا | 3.31 | متوسط اللارجات |
| 100.00\% | نسبة النجاح | A + |  |


|  | Percentage SUM | Count | TO | From | Average |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 0 | 0 | 100 | 95 |
|  | 0 | 0 | 0 | 94 | 90 |
| D <br> (O <br> (D | 12.5 | 4.5 | 1 | 89 | 85 |
|  | 12.5 | 4 | 1 | 84 | 80 |




Kingdom of Saudi Arabia Ministry of Higher Education Majmaah University Zulfi, College of Sciences Mathematics Department


## Student Course Evaluation Form

The purpose of this evaluation is to collect instructor feedback for improving this course and the Mathematics program. Information will also be used for program accreditation purposes.

## I. Program Learning Outcomes Evaluations

| Course Number/Name Instructor | STAT 203 Probability I Dr. Ahmed Elmoasry | Semester | First 1434/1435 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
| Student Name |  | Student ID |  |  |  |  |  |  |
| The course listed above is designed for students to achieve the following outcomes at a Not At All, Low, Low- Medium, Medium, Medium-High or High level. |  |  |  |  |  |  |  |  |
| Please mark (or type) High (5), Medium-High (4), Medium (3), Low-Medium (2), Low (1) or Not At All (0) indicating the level to which you believe, as an instructor, the students have achieved these outcomes in this course. |  |  |  |  |  |  |  |  |
| Program Learning Outcomes |  |  | 5 | 4 | 3 | 2 | 1 | 0 |
| a1. Apply fundamentals and concepts of mathematics. |  |  |  |  |  |  |  |  |
| a2. Apply fundamentals and concepts General sciences and Computer skills. |  |  |  |  |  |  |  |  |
| a3. Realize Social and ethical values. |  |  |  |  |  |  |  |  |
| b1. Read and construct mathematical arguments and proofs. |  |  |  |  |  |  |  |  |
| b2. Apply critical thinking skills to solve problems that can be modeled mathematically. |  |  |  |  |  |  |  |  |
| c1. Work independently and within a team |  |  |  |  |  |  |  |  |
| c2. Bear responsibility for different situations. |  |  |  |  |  |  |  |  |
| c3. Realize codes of ethics and their importance. |  |  |  |  |  |  |  |  |
| d1. Communicate a depth and breadth of mathematical knowledge, both orally and in writing. |  |  |  |  |  |  |  |  |
| d2. Ability to Organize, connect and communicate mathematical and algorithmic ideas. |  |  |  |  |  |  |  |  |
| d3. Critically interpret numerical and graphical data. |  |  |  |  |  |  |  |  |
| e1. Use computer and its applications as an office tool |  |  |  |  |  |  |  |  |

## II. Catalog Description, and Course Prerequisites Evaluations:

Based on your experiences in the course, please respond by circling the most appropriate number. Circle N/A for items that are not applicable, or if you have no opinion.

| Catalog <br> Description <br> $\mathbf{1 4 3 4 - 1 4 3 5}$ | Random vectors - Bivariate distributions <br> Joint probability mass function, joint probability densty function, <br> Independence, conditional distributions, |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Expectation, Covariance, Correlation Coefficient, |  |
| Variance of sum or difference of two random variables and the Moment |  |
| Generating Functions of Bivariate Random Variables) |  |
| Random samples - Distribution of sample mean - Law of large numbers - Central |  |
| limit theorem |  |
| - Elementary statistical Inference - (estimation theory) -Methods and properties |  |
| of point estimation - MLE . |  |

## III. Textbook(s) and/or Lab Manuals (if applicable) Evaluations:



## IV. Computer usage (if applicable) Evaluations:

| Computer usage (if applicable): | Circle One <br> (5=Strongly Agree; $\mathbf{1 = S t r o n g l y ~}$ <br> Disagree) |  |  |  |  |  |
| :--- | :---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 4a. Was the use of computer well integrated with the course? | 5 | 5 | 5 | 2 | 1 | N/A |
| 4b. Was the computer lab adequately equipped with well- <br> maintained and updated computers? | 5 | 4 | 3 | 2 | 1 | N/A |
| 4c. Was the computer lab equipped with sufficient number of <br> computers? | 5 | 5 | 5 | 2 | 1 | N/A |
| 4d. Were the special software packages (MATLAB, <br> SPSS, C+, FORTRAN, etc) available and accessible? | 5 | 4 | 3 | 2 | 1 | N/A |
| 4e. Was adequate technical support available when needed? | 5 | 4 | 3 | 2 | 1 | N/A |

