

**Epidemiology and Biostatistics (0505204)**

**2rd year Medical students**

**Second semester 2016/ 2017**

**Coordinator: Dr. Sireen Alkhaldi**

|  |  |  |
| --- | --- | --- |
| **1** | Course title | Epidemiology and Biostatistics |
| **2** | Course number | 0505204 |
| **3** | Credit hours (theory, practical) | 3 credit hours (2 theory and 1 practical) |
| Contact hours (theory, practical) |  |
| **4** | Prerequisites | None |
| **5** | Program title | MD |
| **7** | Awarding institution | The University of Jordan |
| **8** | Faculty | Medicine |
| **9** | Department | Community and Family Medicine |
| **10** | Level of course | 2nd year medical students |
| **11** | Year of study and semester (s) | Second Semester |
| **13** | Other department (s) involved in teaching the course | Biostatistics |
| **14** | Language of Instruction | English |

**Course Coordinator:**

|  |
| --- |
| **Dr. SIreen Alkhaldi**  **5355000 ext. 23450**  **Email.** [**s.alkhaldi@ju.edu.jo**](mailto:s.alkhaldi@ju.edu.jo)  **Sunday 11am -12noon**  **Monday 11am -12 noon**  **Wednesday 11am - 12noon**  **Other than office hours, appointments can arranged individually by email.** |

**Other instructors**:

|  |
| --- |
| **1-Dr.Mahmoud Al-Hussami, D.Sc., Ph.D., Epidemiologist**  Office Phone: 5355000 - 23138  Email: [m.alhussami@ju.edu.jo](mailto:m.alhussami@ju.edu.jo).  Semester Hours: Mondays (11-12noon) & Tuesdays (1-2pm).  Otherwise, ONLY by an appointment  **2-Dr. Samar Sharif**  **5355000 ext. 23442**  **Office hours 12-1pm Sundays and Wednesdays** |

**Course Description:**

|  |
| --- |
| This course provides students with core skills in epidemiology and biostatistics.  This course covers: study types; measures of frequency and association; confounding; screening; infectious disease outbreaks; measuring public health impact and use and interpretation of population health data. In addition, the unit covers an introduction to statistical concepts, their use and relevance in public health and covers descriptive analyses of data; concepts underlying statistical inference; basic statistical methods for the analysis of continuous and binary data; and statistical aspects of study design. Specific topics include: probability distributions; sampling distribution of the mean; confidence interval and significance tests for one-sample; correlation and simple linear regression. |

**Lecture Schedule**

|  |  |  |  |
| --- | --- | --- | --- |
| **Day** | **Date** | Subjects | Lecturer |
| **Sun** | **29/1/2017** | Introduction | **د. سيرين الخالدي** |
| **Mon** | **30/ 1/2017** | **Introduction** | **د. سيرين الخالدي** |
| **Tues** | **31 /1 /2017** |  |  |
| **Wed** | **1/2/2017** | **Definition of Biostatistics** | **د. محمود الحسامي** |
| **Thurs** | **2/2/2017** |  |  |
| **Sun** | **5/2/2017** | **Population and sample**  **Types of clinical trials** | **د. محمود الحسامي** |
| **Mon** | **6/2/2017** |  |  |
| **Tues** | **7/2/2017** |  |  |
| **Wed** | **8/2/2017** | **Scales of measurement**  **Descriptive statistics** | **د. محمود الحسامي** |
| **Thurs** | **9/2/2017** |  |  |
| **Sun** | **12/2/2017** | **Descriptive statistics: measures of variability** | **د. محمود الحسامي** |
| **Mon** | **13/2/2017** |  |  |
| **Tues** | **14/2/2017** |  |  |
| **Wed** | **15/2/2017** | **Graphical display: looking at data** **Overview of SPSS** | **د. محمود الحسامي** |
| **Thurs** | **16/2/2017** |  |  |
| **Sun** | **19/2/2017** | **Bivariate analysis: cross tabulation and risk indices/ Fundamentals of probability and sampling distribution** | **د. محمود الحسامي** |
| **Mon** | **20/2/2017** |  |  |
| **Tues** | **21/2/2017** |  |  |
| **Wed** | **22/2/2017** | **Shapes of distributions** | **د. محمود الحسامي** |
| **Thurs** | **23/2/2017** |  |  |
| **Sun** | **26/2/2017** | **The normal distribution: area under the normal curve** | **د. محمود الحسامي** |
| **Mon** | **27/2/2017** |  |  |
| **Tues** | **28/2 /2017** |  |  |
| **Wed** | **1/3 /2017** | **Intro. To statistical inference** | **د. محمود الحسامي** |
| **Thurs** | **2 /3/2017** |  |  |
| **Sun** | **5/3/2017** | **Inferences for proportions: comparing proportions: relative risk and odds ratio** | **د. محمود الحسامي** |
| **Mon** | **6/3/2017** |  |  |
| **Tues** | **7/ 3/2017** |  |  |
| **Wed** | **8 /3/2017** | **Hypothesis testing/ Significance testing** | **د. محمود الحسامي** |
| **Thurs** | **9 /3/2017** |  |  |
| **Sun** | **12 /3/2017** | **Parametric vs. non-parametric techniques**  **One-sample t-test, two-sample t-test (t)**  **Analysis of variance (ANOVA) (F)**  **Pearson’s product moment correlation (r)** | **د. محمود الحسامي** |
| **Mon** | **13/3/2017** |  |  |
| **Tues** | **14/3/2017** |  |  |
| **Wed** | **15/3/2017** | **Categorical data analysis: Nominal data: Chi-square Goodness-of-fit test** | **د. محمود الحسامي** |
| **Thurs** | **16 /3/2017** |  |  |
| **Sun** | **19 /3/2017** | **Non-parametric statistical tests: Ordinal data: Mann Whitney U test (U), Kruskal Wallis test (H), Spearmen’s Rank Order Test** | **د. محمود الحسامي** |
| **Mon** | **20/3/2017** |  |  |
| **Tues** | **21/3/2017** |  |  |
| **Wed** | **22/3/2017** |  |  |
| **Thurs** | **23/3/2017** | **Basic epidemiological concepts/ Epidemiological study types** | **د. سيرين الخالدي** |
| **Sun** | **26/3/2017** | **Midterm Exam** | |
| **Mon** | **27/3/2017** |
| **Tues** | **28/3/2017** |
| **Wed** | **29/3/2017** |
| **Thurs** | **30/3/2017** |
| **Sun** | **2/4/2017** | **Association and causation** | **د. سيرين الخالدي** |
| **Mon** | **3/4/2017** |  |  |
| **Tues** | **4/4/2017** |  |  |
| **Wed** | **5/4/2017** | **Measures of association** | **د. سيرين الخالدي** |
| **Thurs** | **6/4/2017** |  |  |
| **Sun** | **9 /4/2017** | **Bias and confounding** | **د. سيرين الخالدي** |
| **Mon** | **10/4/2017** |  |  |
| **Tues** | **11 /4/2017** |  |  |
| **Wed** | **12 /4/2017** | **Food contamination** | **د. سيرين الخالدي** |
| **Thurs** | **13 /4/2017** |  |  |
| **Sun** | **16/4/2017** | **Food additives**  **Radiation** | **د. سيرين الخالدي**  **د. سيرين الخالدي** |
| **Mon** | **17/4/2017** |
| **Tues** | **18/4/2017** |
| **Wed** | **29/4/2017** |
| **Thurs** | **20/4/2017** |
| **Sun** | **23/4/2017** | **Air Pollution** | **د. سيرين الخالدي** |
| **Mon** | **24/4/2017** |  |  |
| **Tues** | **25/4/2017** |  |  |
| **Wed** | **26/4/2017** | **Global environmental problems** | **د. سيرين الخالدي** |
| **Thurs** | **27/4/2017** |  |  |
| **Sun** | **30 /4 /2017** | **Global environmental problems** | **د. سيرين الخالدي** |
| **Mon** | **1 /5/2017** |  |  |
| **Tues** | **2 /5/2017** |  |  |
| **Wed** | **3 /5/2017** |  |  |
| **Thurs** | **4 /5/2017** | **Chronic diseases 1** | **د. سمر الشريف** |
| **Sun** | **7/ 5/ 2017** | **Chronic diseases 2** | **د. سمر الشريف** |
| **Mon** | **8/ 5/ 2017** |  |  |
| **Tues** | **9/ 5/ 2017** | **……..Final Exam (to be determined later)** |  |

**PRACTICAL (1 CH)**

**Aim: To teach students of how to apply their core skills in epidemiology and biostatistics in writing scientific research.**

**Approach: Students will be divided into groups, eight students in each group. Groups will be allocated to staff at the Department of Family and Community Medicine. Students will visit a specific community to evaluate health and other health-related needs of the community. After data collection from the field, each group will analyze a specific part of the collected data and write their report.**

**Grading and evaluation:**

**30% Midterm exam**

**20% Field work and report writing (research)**

**10% Attendance**

**40% Final**

Course Policies:

|  |
| --- |
| A- Attending all classes is mandatory unless a reasonable excuse is provided in extreme circumstances.  B- Absences from exams and handing in assignments on time: The University of Jordan procedures and rules regarding exams will be applied. Handing assignments on time is arranged with the instructor.  C- Health and safety procedures: All University of Jordan rules will be followed.  D- Honesty policy regarding cheating, plagiarism, misbehavior:  The grade should be a reflection of student’s individual understanding and mastery of the material covered in the course. Cheating or dishonesty in any manner (including, but not limited to, plagiarism, lying, and/or presenting work from others as your own) will not be tolerated. Should academic dishonesty be suspected or detected, it will be dealt with according to the University of Jordan policies.  E- Grading policy: As mentioned above.  F- Available university services that support achievement in the course: All available halls and technologies will be utilized for the best achievement of this course. |

**Good Luck**