Curriculum

Department of Clinical Pharmacy

Undergraduate Courses

Course Syllabus

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1. Course Number: **PHCL-456**

1.1 Course Name: **Advanced Drug Information Services**

2. Course Instructors **Hisham Abou-Auda, Ph.D.**
Tawfeeg Najjar, Ph.D.

2.1 Course Coordinator **Dr Hisham Abu-Auda**

3. Topics covered

3.1 Part A (Dr Abou-Auda)

1. Introduction to literature evaluation
2. Anatomy of scientific literature articles.
3. Clinical application of statistical analysis:
    a. Basic concepts – Population and samples
    b. Sampling techniques.
    c. Descriptive and inferential statistics
    d. Statistical inference
        - Parametric and nonparametric statistics
        - Regression and Correlation
4. Flowchart of inferential statistical analysis.
5. Examples of statistical tests.
    a. T-test
    b. Chi-square test and Fisher's Exact test
    c. One-way analysis of variance
    d. Other relevant examples
6. Pitfalls in reporting statistical data in literature.
7. How to evaluate drug companies' literature and advertisements.

3.2 Part B (Prof. Najjar)

1. Classification of biomedical literature
2. Experimental literatures
    a. Clinical trials
    b. N of 1 trial
    c. Programmatic studies
    d. In Vitro pharmaceutical studies (stability studies)
    e. Bioequivalence studies

3. Observational literatures
    a. Cohort studies
    b. Case control studies
    c. Cross sectional studies
    d. Case report studies
    e. Survey studies
    f. Post marketing survellance studies

4. Overview literature
    a. Qualitative nonsystematic reviews
    b. Qualitative systematic reviews
    c. Quantitative systematic review (meta-amnalysis)

5. Health related literature
    a. Pharmacoeconomic studies
    b. Quality of life studies

4. Resources used

1. Book: Drug Information: Guide for pharmacist 2nd edition (Chapter 7). By Patrick M. Malone & Kristian Wilconson
   The material of this book were scanned and simplified.
2. Selected articles from biomedical journals

5. Learning Objectives

The student should be:

1. Familiar with the various classes (i.e. experimental, observational, overview and health related) of biomedical literature.
2. A ware of the situation when each type of biomedical literature is required
3. Understand the purpose of each type of these literature
4. Familiar with the design of each type and how it differ from the others
5. Familiar with some of the characteristics of each type that is required in the evaluation process.

6. Study questions

1. What is the differences between experimental and observational Literatures.

2. When meta-analysis studies are usually required and conducted (this question is general for all types).

3. The following: ("Identify the prevalence of characteristics of diseases in a population") descripe the purpose of which study type (the is a general question)

4. Give example of a study design (Hypothetical) of a clinical trat (this is also general question).

7. Assignment to be given

- At the beginning of this section each student will select randomly one of the various biomedical literature types to be presented at the end of the section.
- Each week the student will read at least two articles and be ready to participate in the next class.

8. Evaluation strategies

The students evaluated according to the following scheme:

1. At the beginning of each class, the students will take a quiz on the articles that will be discussed in this class, and which were distributed to them on the previous class. **5 points**
2. At the beginning of this section each student will select randomly one of the various biomedical literature types and prepare him-self to present at the end of the section as practical exam. **10 points**
3. Midterm theoretical exam **15 points**
4. Final theoretical exam **20 points**

Total: 50 points

(Total of 100 points for both faculty members)