PRACTICUM ON BIOSTATISTICAL CONSULTING

QUARTER 4 (Summer 2018; 4/30/18-7/27/18)

Weill Cornell Medical College

Meeting Time:

Introductory Orientation Session: Monday, April 30th, 1:30-3:00pm
Office hours by appointment (weekly).

Meeting Place: LA-241 and some other locations to be determined.

Instructor:

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Course Description: Under the supervision of faculty biostatisticians and staff biostatisticians in the Division of Biostatistics and Epidemiology, students will participate in the Biostatistics and Epidemiology Consulting Service, which is managed by the Division of Biostatistics and Epidemiology in the Department of Healthcare Policy & Research. The consultation services offered to clinical investigators include data analysis, statistical analysis plan writing, sample size and power analysis, study design, database design and management, questionnaire development, etc. Students will gain real-life experience by participating in these consulting/collaborative activities, which will help to prepare them for a career in biostatistics.

Learning Outcomes: By the end of the practicum course, students will be able to engage *independently* in biostatistical consultations with clinical investigators. The students will have acquired skills in:

1) Directing the consultation.
2) Helping the investigator to define the primary and secondary endpoints of interest.
3) Discussing with the investigator the types of statistical tests that would be most appropriate for the project.
4) Determining the appropriate sample size for the investigator's project based on an assessment of feasibility and an assessment of statistical power and/or precision.
5) Preparing a clear and concise data analysis report for the investigator (for consultations where the data is ready for analysis), with detailed interpretations of the study findings included in the report (e.g., meaning of resulting p-values, effect estimates [odds ratios, relative risks, mean differences, etc.], and 95% confidence intervals).
6) Preparing a clear and concise statistical analysis plan (for consultations where a statistical analysis plan is needed).
7) Discussing the expectations and timeline of the investigator, as they pertain to protocol submission or abstract/manuscript preparation.

Schedule: Groups of 2 students will attend biostatistical consultations to observe the consultation process. The students will then assist a faculty/staff biostatistician (i.e., the person in charge of the consultation) with preparation of an analysis report or statistical analysis plan, depending on the nature of the consultation request. Students attending the same consultation can contribute to the final product as a team.

The faculty/staff biostatistician will provide feedback on the students' analysis reports and analysis plans prior to formal submission of the analysis reports/plans for grading. This will allow the students ample time to improve the analysis report/analysis plan prior to receiving a grade.

Each student will attend and participate in approximately 5-6 consultations for the summer term (depending on the needs of each consultation, the number of assigned consultations can vary). Students will be provided with 2-3 hours of meeting time per week (with the faculty or staff biostatistician) to review/discuss their assigned consultation projects in addition to the one-hour consultations with the clinical investigators.

Evaluation and Grading: Students will be graded based on satisfactory completion of their statistical analysis reports and statistical analysis plans. As stated above, students will have ample time to receive feedback on their analysis reports/plans prior to submission for grading. A score ranging from 0-10 will be issued for each submitted analysis report/analysis plan and the scores will be averaged at course completion to produce a final letter grade. The lowest of the submitted scores will be dropped prior to calculation of the final letter grade.

Grading Scale:

A+	98-100%	4.3
A	93-97%	4
A-	90-92%	3.7
B+	88-89%	3.3
B	83-87%	3
B-	80-82%	2.7
C+	78-79%	2.3
C	73-77%	2
C-	70-72%	1.7
D	60-69%	1.3
F	Below 60%	0

Course Prerequisites:

Course prerequisites include:

Biostatistics I (HBDS 5005)
Biostatistics II (HBDS 5008)
Study Design, Categorical and Censored Data Analysis (HBDS 5012)