**Course Syllabus**

Math 221B – Biostatistics – Section 05

Winter 2017

Brother Ryan Cromar

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**Contact Information:**

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Office Hours: **T** 3:15-4:15pm, **W** 12:45-1:45 and 4:15-5:15, **ThF** 11:30-12:30

Other times by appointment.

**Prerequisite:** At least 15 University Credit Hours

**The Promise:**  In this course, you will have the opportunity to explore the use of statistics with real world examples, highlighting applications in *biotatistics*. In the process, you will see the importance of collecting, summarizing, analyzing, and interpreting data. You will learn how to think critically about data and the statistical results and conclusions that will come from the data.

As you take responsibility for you own learning, you will gain the following benefits:

* gain an appreciation rather than an increased fear of statistics
* develop statistical software skills using SPSS
* be able to determine the correct statistical procedures to use in a given situation
* learn statistics to help prepare you for upper division courses and/or employment that involves analyzing data and reviewing statistical results

**Ways to fulfill the Promise:** You will have the opportunity to apply the learning model so that you can get the most out of your learning statistics in this class:

* You will have video, reading and note taking before class to help you prepare for the group meeting and class
* You will then teach one another, with my guidance during class, or the TAs guidance during the group meeting
* You will then have the opportunity to ponder/prove what you have learned by completing homework and cumulative tests, and a semester statistical report.

**Course Materials:**

**Textbook:**<http://statistics.byuimath.com/index.php?title=Main_Page>; We are looking into getting the online textbook printed.

**Software:** SPSS – Either: 1) buy six-month license at onthehub.com/spss for $44.98, or 2) use the computers in the library, or 3)use VMware <https://content.byui.edu/file/21bc37cb-eb8d-4ce6-82cd-496e46ea7129/1/VDIInstructions%2009162016.docx> (though it can be temperamental).**Semester Schedule:**



**The final grade will assess each student’s ability to understand the process of statistics. To evaluate your progress in reaching these goals (and to provide you with feedback on your learning), these items will be applied:**

10% - Quizzes – *Prepare and Teach One Another*

20% - Homework and Class Problems – *Ponder/Prove*

60% - Exams – *Ponder/Prove*

10% - Group Project – *Teach One Another*

**Here is what a typical weekly schedule would look like:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Monday** | **Tuesday** | **Wed.** | **Thursday** | **Friday** | **Sat** |
| Class Meeting  RKS 215 | **Final Due date for:**  **1) Prep Assignment,**  **2) Class Assignment, 3) Homework Quiz** | Group Preparation  RKS 215 | Class Meeting  RKS 215 | Group Preparation  HIN 257  **Final Due date for:**  **1) Prep Assignment,**  **2) Class Assignment, 3) Homework Quiz** |  |

**Group Preparation Assignments – Wednesdays and Fridays – *Prepare and Teach One Another*:**

There are two parts to the preparation assignment before you come to the group meeting:

**Individual Preparation:** You will prepare for the lesson by studying the online textbook, watching the video and taking pre-structured notes on your studying. In Part I of these notes, you will define new terms and write down relevant formulas to help you prepare to meet with your groups.

**Group Preparation**. You will then meet together with your pre-selected groups. You will compare your answers on Part I of the notes and complete a practice problem together on Part II of your notes. Once you finish the practice problem, you will be provided with immediate feedback from a trained T.A. (Note: If your group prefers that you do Part II before the group meeting, that is another option) After receiving feedback and resolving any misconceptions, your group will then takes an online quiz together over the material. Each student must complete their own quiz, but they all work together and use their notes to answer the questions.

**Note: In I-Learn, the due date and time for the group quiz is at the end of each of the Group Preparation Meetings. However, you can take the quiz twice and you have until the end of the lesson period (either a Tuesday or Friday at 11:55pm) to complete the quiz. Most students complete the quiz once by the end of the Group Preparation Meeting.**

**Class Meeting – Mondays and Thursdays – *Prepare and Teach One Another*:**

There will be no lecturing during class since the lectures will be recorded by me and put in I-Learn and the online textbook. There a several possible items that we will likely do during class: 1) outline what you should have gotten out of the preparation and go over any questions on the reading and the video, 2) work on a few problems covered in the lesson, 3) spend time diving deeper into the material. Class time activities will be based on feedback from the TAs and the students, as well as according to the voice of the Spirit. Attendance to the Class meeting will count toward Homework points. During or after class you will need to go to I-Learn and submit an assignment. You will be asked questions on the assignment concerning attendance and punctuality. **In I-Learn, the final date of the assignment is due Tuesday or Friday at 11:55pm.**

**Homework – Due Tuesdays and Fridays – *Ponder and Prove*:**

Homework assignments provide opportunities for students to practice statistical skills learned in class. The exercises will reinforce principles taught in the book, the videos and the classroom. Please use the many resources available to you (e.g. other members of the class, tutors, Brother Cromar, the book). There will be two parts to the homework assignment:

**Part I – Regular Homework**: There will be a set of homework problems in a word document that you will work on to help you solidify what you learned in class. You can find this in I-Learn. You can check your work with an answer key (also found in I-Learn) to see if you understand how to do certain problems. **This homework will not be graded**, but will prepare for Part II, which is the Homework quiz.

**Part II – Homework Quiz –** After completing the Regular Homework, you will then complete a 10 question homework quiz in Brain Honey. You cannot open this until after class is completed for this lesson. You will be able to see your results after the deadline for completing the quiz is past for everyone. You are allowed to take it twice. Also, there will be some homework quiz questions that will review items from previous lessons. This will need to be completed by midnight at the end of each Lesson period (**either Tuesdays or Fridays by 11:55 pm**)

**Tests – *Ponder and* *Prove:***

To encourage deeper understanding of the material, four tests will be given. The tests will be cumulative. Tests will be all taken in the testing center. How well you do your homework will be a likely gauge of how well you do on the exams. Missing exam deadlines will result in a score of zero. Cheating will not be tolerated and a student who cheats will receive a score of negative 100% on the test and may fail the course**.**

**Group Project – *Teach One Another*:**

To help assimilate and apply principles taught in the course, students will complete a project involving some “real-world” application. Statisticians and analysts hardly ever work alone. They almost always work as part of a team. To reflect this, students will work in teams of 3 to 5 people in similar majors on projects. There will be intermediate deadlines before the final project report is due to pace the workload of the project. The final project will consist of a word document report for me to review and a power point to present to the class.

Students within a group will rate each other in terms of how well they participated in the project at each stage of the project. Each person in the group will rate each other (including themselves) out of 10 points in terms of how they participated. This will be factored into every student’s grade in the group.

The final project grade will be comprised of evaluations by the teacher and participation evaluations from each group member. Here are the following project deadlines:

|  |  |
| --- | --- |
| **Semester Project Deadlines** |  |
| Initial Project Proposal | January 21 |
| Final Project Proposal | February 25 |
| Collecting and Describing the Data | March 18 |
| Putting it Together - Draft | March 25 |
| Putting it Together - Draft | April 1 |

**Grade Checking**

*Grades will be posted on BrainHoney on a regular basis for review. Please review and let me know of any items entered incorrectly. Students need to review their grades often for accuracy and to check their progress.* ***Please have a place to save all of your Homework and Quizzes so you have record of all of your quiz and homework scores in case a score is misreported or not reported in Brain Honey.***

**Determination of Final Grade (Example only)**

Weighting

Factor

Class Prep 90 student’s score = 90% x .10 = 9

100 possible points

Homework 88 student’s score = 88% x .15 = 13.2

100 possible points

Exams 360 student’s score = 80% x .60 = 48 400 possible points

Group 140 student’s score = 90% x .15 = 13.5

200 possible points

Course Percentage: (9 + 13.2 + 48 + 13.5) = (83.7)

Grading Scale:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A** | **A-** | **B+** | **B** | **B-** | **C+** | **C** | **C-** | **D+** | **D** | **D-** | **F** |
| 94-100 | 90–93 | 87–89 | 83-86 | 80-82 | 77-79 | 73-76 | 70-72 | 67-69 | 63-66 | 62-60 | ≤ 59 |

**Course Policies and Other Information:**

1. If you have any questions or need help, please come to my office hours in RKS 232T. Additional times are available by appointment. If you are having trouble in the course, come see me immediately. Do not wait to ask for help. My goal is to help and encourage you with the desire and skills for learning.
2. The Mathematics Department provides free tutoring in the second floor of the library, though I do encourage you to meet up with me or one of your two TAs first.
3. Computer Software: SPSS will be used in this course primarily since this tool is used in your respective departments. Both the graphical and statistical tools will be used in SPSS.
4. All information about this class (including grades) can be found on I-Learn. Announcements will be e-mailed to you on a regular basis. Students are responsible for checking the information (including the grades) on I-Learn and their campus email account on a regular basis.
5. It would be unfair to allow only select students to turn in special extra credit. Please do not ask me to adjust your grade or give you an extra credit assignment.
6. Please be respectful to others in class and not talk out of turn. The principle for this can be found in the Doctrine and Covenants 88:122. “…but let one speak at a time and let all listen unto his sayings, that when all have spoken that all may be edified of all, and that every man may have an equal privilege.”
7. Cell phones (or anything like unto it) need to be turned off or left at home while in class. They are and can be a distraction to members of the class. Any student found SENDING AND READING TEXT MESSAGES IN CLASS, having his/her cell phone go off, using his/her cell phone for a call, checking email, etc will be asked to bring treats for everyone for our next class period. If it becomes a problem for a student, then quiz points will be taken off based on the discretion of the instructor.
8. Laptops will be used a lot in the classroom since we will be using SPSS to calculate statistical procedures. Those who have laptops please bring them on a regular basis and be willing to share with those that don’t have one. However, those found surfing the net, chatting on IM, or anything not related to the class will be asked to close their laptop and bring treats to class for the next class period.
9. Each of us has signed an agreement to abide by the BYU-Idaho Honor Code. The instructor sustains the Honor Code and expects each student to abide by the Honor Code. This includes academic honesty, respect for others, and dress and grooming standards. The Dress and Grooming Standards are enforced in this class. I will ask you to leave class until you are properly dressed or groomed. There are no exceptions to this policy. Please do not hamper the influence of the Spirit on the class by violating the Honor Code.
10. You are responsible for your education. Here is a few items students are expected to do outside of class for those who wish to maximize their learning and their chances of leaving the class with a good grade:
    1. *“Act and not be acted upon” (2 Nephi 2: 26).* – Students are responsible for proving to the instructor that they have met the objectives of the course through a variety of activities and exams. It is the student’s responsibility to earn a good grade.
    2. Students are expected to arrive on time to class (class will start on time each day), to participate in class quizzes, to take notes, to ask questions and to take class time seriously.
    3. Righteousness is required for the Spirit of the Lord to be in your life. The Spirit is needed in order to learn. This idea coupled with faith will open the revelatory process and the Lord will hasten your ability to learn faster and more.
11. BYU-Idaho prohibits sex discrimination against any participant in its education programs or activities. Prohibited sex discrimination includes incidents of sexual harassment (including sexual violence), dating violence, domestic violence, sexual assault, and stalking (collectively “sexual misconduct”).

As an instructor, one of my responsibilities is to help create a safe learning environment for my students and for the campus as a whole. University policy requires that I report all incidents of sexual misconduct that come to my attention. If you encounter sexual misconduct, please contact the Title IX Coordinator at titleix@byui.edu or 208-496-9200. Additional information about sexual misconduct and available resources can be found at www.byui.edu/titleix.

1. BYU-Idaho does not discriminate against persons with disabilities in providing its educational and administrative services and programs, and follows applicable federal and state law. This policy extends to the University’s electronic and information technologies (EIT).

Students with qualifying disabilities should contact the Disability Services Office at disabilityservices@byui.edu or 208-496-9210. Additional information about Disability Services resources can be found at http://www.byui.edu/disabilities.

1. I reserve the right to change the syllabus, class policies, or schedule at any time.