School of Pharmacy

Required Course Syllabus
Fall – P3
Course# PHAR 6236/Track: Global Health Colloquium
Applied Biostatistics
Course Dates: August 24 – December, 11 2020
Online learning through the Blackboard Collaborate Ultra

Course Coordinator
Jongwha Chang, PhD
Office Room Number: 703
Office Phone: (915) 747-8241
E-mail: jchang@utep.edu
Virtual Office hours: Friday 10:00 am – 11:00 am or by appointment through the Blackboard Collaborate Ultra

Course Faculty
Gabriel A. Frietze, PhD
Office Room Number: 502
E-mail: gafrietze@utep.edu

Biographical sketch of Drs. Chang and Frietze can be found on the following UTEP website:
http://www.utep.edu/pharmacy/people/faculty.html

Course Virtual Office Hour

Virtual Office Hours will be synchronous through Blackboard Collaborate Ultra and will be used to discuss problematic exam questions and any course logistic problems. The course coordinator will try to respond as soon as possible (generally within 24-48 hours). When sending an e-mail, send through the Blackboard® course e-mail or place the course number and name (e.g., PHAR 6236 Applied Biostatistics and the issue / topic in the subject line of the email). For individual faculty, please email faculty for their online office hours.

Course Description

This course will provide a more in-depth discussion on the analysis, interpretation, and presentation of literature and public health data and how it relates to pharmacy practice. An advanced and applied review of biostatistical principles will include: overview of RCT, T-test, ANOVA, bivariate regression, multiple regression, logistic regression, survival analysis, nonparametric tests, and repeated measure / non-inferiority.
**Pharmacists’ Patient Care Process:** This course will assist students in analyzing / interpreting literature and critiquing statistical methods from healthcare data to formulate a more evidenced-based and cost-effective treatment plan.

**Course Learning Objectives**

At the conclusion of this course, students shall be expected to:

- To develop an appreciation of the importance of biostatistics in public health and medical research
- To appropriately interpret statistical results, tables and figures from the public health and medical literature
- To evaluate the methodological strength of published public health research on the basis of the appropriateness of statistical methods and the extent to which the results can be generalized
- To communicate the results and limitations of statistical analyses of public health data in both technical and non-technical terms.
- To evaluate professional, lay, and scientific literature in a logical, systematic fashion.
- To apply principles of evidence-based medicine to make informed health-care decisions and recommendations.

**Level of Assessment:** 1 – Introduce 2 – Reinforce 3 – Apply

<table>
<thead>
<tr>
<th>CAPE Outcomes</th>
<th>Level of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Learner (Learner): Develop, integrate, and apply knowledge from the foundational sciences (i.e., pharmaceutical, social/behavioral/administrative, and clinical sciences) to evaluate the scientific literature, explain drug action, solve therapeutic problems, and advance population health and patient centered care</td>
<td>2</td>
</tr>
<tr>
<td>2.1 Patient-centered care (Caregiver): Provide patient-centered care as the medication expert (collect and interpret evidence, prioritize, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities).</td>
<td>2</td>
</tr>
<tr>
<td>2.4 Population-based care (Provider): Describe how population-based care influences patient-centered care and influences the development of practice guidelines and evidence-based best practices.</td>
<td>2.3</td>
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<tr>
<td>3.1 Problem Solving (Problem Solver): Identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution</td>
<td>2.3</td>
</tr>
</tbody>
</table>

**PCOA**

| 3.6.1 Research study design used in medical research | 2 |
| 3.6.2 Application and interpretation of statistical tests and data collection instruments | 2 |

**NAPLEX**

| 1.1.2 Patient medical records | 2,3 |
| 1.1.4 Laboratory and diagnostic findings | 2,3 |
| 1.1.7 Risk factors relevant to the prevention of a disease or medical condition and the maintenance of wellness | 2,3 |
| 1.4.1 Patients and /or patients’ agents | 2,3 |
| 1.4.2 Interdisciplinary health care providers | 1,2,3 |
| 1.5.1 Best practices, scientific literature evaluation, and health-related resources | 2,3 |
Detailed Course Meetings & Location

Class meeting times: Friday from 10:00am-11:50am
Class meeting location: 214

In a major disruption (e.g., H1N1 epidemic, subzero weather), be prepared to maintain course progress via other means (e.g., Internet, our Blackboard course shell, etc.) and check your email (especially your UTEP miners account) regularly.

Online Platform/Blackboard:

This semester the course will be taught online using Blackboard as the primary learning management system.
Accessing Course Content on Blackboard: All lectures, handouts, and course material will be located in Blackboard. Log into My UTEP.edu and click on the Blackboard link to access the online course for PHAR 6236. The course is individualized and students may access lectures/handouts as they are made available by course instructors. Except in cases of a UTEP network being “down” or “offline” you are ultimately responsible to ensure that your computer is connected to the internet and that any issues are addressed prior to class and/or assessments.

Online Assessment Requirements:

This course requires the use of ExamSoft® (or CORE ELMS®). Students are responsible for creating their online login within the first week of class. If students cannot access your online account, please contact Adrian Enriquez (aealonso@utep.edu), to resolve this issue within five (5) business days of the first day of class. Students are responsible for ensuring they have access to the online assessment system. Mr. Enriquez is NOT available for questions or laptop failures/requests after business hours or on weekends. Assessments (e.g., assignments, quizzes, and exams) may be disseminated before the due date. This requires students to download the assessment using an internet connection. It is the student’s responsibility to maintain access to a reliable internet connection (with the rare exception of when UTEP’s systems are down). Class will be online asynchronously. Lectures will be posted by either course coordinator or course faculty from each week. All lectures will be recorded. Exams will be held on dates provided in the course calendar until otherwise stated. The final exam will occur during finals week.

Methods of Instruction/Learning

This semester, the course will be taught primarily online via Blackboard Learning Management System, For tips on succeeding in an online environment, see: https://www.utep.edu/extendeduniversity/utepconnect/blog/february-2017/tips-for-online-learning-success.html.

The learning outcomes in this course may be achieved via:
1. **Outside Preparation** – develop understanding of course content by reading and/or reviewing lectures, responding to colleagues’ postings via blackboard, preparing assignments for formal presentation and/or grading
2. **In-class Lectures** – reinforce materials provided via blackboard and/or in the textbook, allows opportunities to answer questions and provide feedback on progress/goals of assigned tasks and/or examination
3. **Team Assignment/Activity** – offers opportunities to discuss, design, and critique assignments and/or course material
4. **Case Discussions / SOAP Notes/Documentation** – provides practice opportunities for application of course outcomes and allows students to practice evaluating and assessing patient cases, making therapeutic recommendations, and documenting patient interactions.
5. **Live Patient Interview** -- provides practice in communication and counseling skills as well as practice in integrating clinical information.

6. **Written Assignments:** --provides an application for the process of delivering basic research and drug information materials in written form.

7. **Exams/Quizzes** -- allows students to demonstrate the course ability outcomes and for instructors to provide necessary feedback.

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**Required Course Technology/Tools/Needs**

**Recommended Textbooks (If any, optional):**

**Laptop Computer**
- Students are expected to bring laptop computers to the class each day for participation in on-line exercises or assessments. It is the responsibility of the students to make sure that the laptops are in working condition and meets the University and School of Pharmacy IT requirements. (See SOP Student Handbook). Students will need to access data analysis software available at my.apps.utep.edu. Students will also be expected to have a flash drive (minimum storages of 2G) for data analyses.

**Calculator**
- Students are expected to bring a non-programmable calculator to class and to all assessment activities.

**Software/Technology must be tested in orientation/first week of courses to ensure functionality.**
- ExamSoft® Exam Monitor
- Blackboard® Collaborate: Chrome Browser
- Microsoft® Teams
- Blackboard® Respondus Lockdown
- *Audio (speaker & microphone) and video (camera) MUST be checked to be functional for classes and online exams*

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**Attendance**

The attendance policy for the School of Pharmacy is outlined in the Student Handbook. It is expected that students should demonstrate their commitment to the profession and respect for faculty, guest speakers, and colleagues by attending all classes and arriving to class on time prepared for the day’s lesson(s). Attendance at lectures is not mandatory in that attendance will not be taken at each lecture. However, attendance and punctuality at lectures are strongly recommended and expected as a sign of professional behavior. If large number of students are absent, the course coordinator reserves the right to give unannounced quizzes. Missing class for work is NOT a valid reason for your absence.

If a students has an excused absence, they should immediately notify the course coordinator(s) and instructor(s). To secure approval for an absence related to travel for professional meetings or for events that fall outside of the criteria outlined in the Student Handbook, please refer to the Handbook for more information regarding required documentation for submission to the Office Student Affairs.
Classroom / Online Etiquette

Students are expected to be professionals and will be treated as such unless circumstances deem otherwise. Any behavior that impairs student ability to learn will not be tolerated (e.g., side conversation, cell phone use, electronic device use for activities not related to coursework). Laptops may be used during class for taking notes. Using laptops for other activities than taking notes causes a disruption to the class around you.

ONLINE: Your instructors and classmates want to generate a safe online learning environment. Please use appropriate online classroom behavior by reading the UTEP Netiquette Guide for Online Courses available at https://www.utep.edu/extendeduniversity/cid/_Files/docs/faculty-resources/student-orientation/NetiquetteGuideforOnlineCourses.

Expectations of Students during Course
It is the responsibility of the student to monitor their progress during the course. Students should seek advice and assistance from the course facilitator as soon as they encounter any difficulty in the course.

COVID-19
For up-to-date UTEP policies, please see: https://www.utep.edu/resuming-campus-operations/?home

Evaluation and Grading Policy

Course point distribution will be as follows;

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<thead>
<tr>
<th>Type of Assessment</th>
<th>Total points</th>
<th>% Course Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>Exercise X4</td>
<td>20 (5 for each exercise)</td>
<td>20%</td>
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<tr>
<td>Journal Club X5</td>
<td>20 (4 for each Journal Club)</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

Assignment of Grades (Final grade will be round up – i.e., Final grade 89.5 = 90 or 89.49 = 89)
A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%
F = < 60%

All Exams will be administered via ExamSoft®, unless noted otherwise.

It is the responsibility of the student to monitor his/her progress during the course and see that he/she is maintaining the required competency level. Students should seek advice and assistance from the course facilitator as soon as he/she encounters any difficulty in the course.

Exams: A total of two exams will be administered in the course (exam 1 & exam 2 – but final exam is optional). Each exam is worth 30% of the course grade, as indicated in the grading policy above.
Exercises: There will be 4 exercises that cover topics from class. Exercise will include all individual exercise, in-class activities, and pop quizzes. Please note that in-class activities are not announced ahead of time and students will be unable to make these up in the event of an unexcused absence.

Journal Clubs: There will be 5 journal clubs that cover all aspects of evidence-based literature assessment (i.e. initial literature assessment, study design, methods, statistics, etc.). Each journal club will be an individually composed formal written and typed response for questions lists. Each student has to submit their written and typed response to me before the deadline by e-mail. A template will be provided for formatting and assessment guidance.

Participation/Professionalism/Attendance: All students are expected to watch all online class sessions, complete all readings/assignments, and be actively engaged in case discussions. Student participation/professionalism/attendance will be monitored through Blackboard.

Lack of professionalism/participation, unexcused absences, and repeated instances of tardiness may result in a grade deduction (up to 2% deduction from total grade) for each offense. The course coordinator reserves the right to increase percentage deduction or take alternative approach in accordance with severity of the offense and in consultation with the UTEP School of Pharmacy policies and procedures.

EXAM-RELATED Technology and Guidance:

Please refer to the UTEP School of Pharmacy Student Handbook for guidance for exams (online/remote as well as on campus) https://www.utep.edu/pharmacy/current-students/current-students.html

Online Assessment Requirements: This course requires the use of ExamSoft®. Students are responsible for creating their online login within the first week of class. It is the student’s responsibility to maintain access to a reliable internet connection (with the rare exception of when UTEP’s systems are down).

If students cannot access your online account, please contact Adrian Enriquez (aealonso@utep.edu), to resolve this issue within five (5) business days of the first day of class. Students are responsible for ensuring they have access to the online assessment system. Mr. Enriquez is NOT available for questions or laptop failures/requests after business hours or on weekends.

Missed Quizzes / Exams / Assignments Policy

Only students who miss an exam, quiz, or an assignment due date as a result of an excused absence will be allowed to make-up the missed assignment or assessment. Students should consult the UTEP School of Pharmacy Student Handbook for definitions and examples of excused absences.

- The course coordinator MUST be notified on the day of the exam for the student to be excused from that exam for an emergency.
- In the case of religious holidays, the student MUST notify the course coordinator 10 business days prior to the exam. Students should not assume that they can miss an exam for vacation or other personal conflicts.
- Any excused absence from an exam for health reasons must be documented with a note from an appropriate health professional.
• Any unexcused absence from an exam will result in a grade of zero for that exam.

The course coordinator will determine the time and date for a make-up exam, which will occur before the final exam period. If the student is unable to attend either the original exam or the make-up exam, the course coordinator is not required to provide additional opportunities for the student make-up exam. The format of the make-up examination is at the discretion of the course coordinator, and may include any question type including, but not limited to, open-ended questions, an essay examination, or oral examinations.

Remediation Policies:

Remediation occurs if a student fails the course. Students must participate fully in the course to be eligible for remediation. Please refer to the Student Handbook for end-of-course remediation policies and timelines (see Student Handbook: Table of Contents for End of Course Remediation).

Course Evaluation

During this course, you will be provided with an opportunity to evaluate this course and your instructors. The Associate Dean for Assessment, Accreditation, and Strategic Planning will send an email reminder toward the end of this course for you to complete the course evaluation. UTEP uses an online course evaluation system. Course Evaluations can be taken at my.utep.edu by clicking on the CLASSES TAB on the left. The Course Evaluation module will appear and your classes will be listed. Click on the Course Name, or CRN, to complete the evaluation for the course. Your participation is an integral part of this course and the accreditation process, and your feedback is vital to improving education at the School of Pharmacy.

General Statement about Course Policy

The syllabus is subject to change to meet course needs, especially if there are unexpected disruptions or changes in class size, resources, etc. The most updated syllabus can be found on the course Blackboard shell. It is the student’s responsibility to review the syllabus periodically for updates.

UTEP and SOP Policy for Academic Integrity

Any student who commits an act of academic dishonesty is subject to discipline (which could include failure of course or dismissal from School of Pharmacy). Please refer to the Student Handbook for SOP guidance on academic integrity (see Student Handbook - Table of Contents for Curriculum and Classroom Policies: Academic Integrity).

Academic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, and any act designed to give unfair advantage to a student or the attempt to commit such acts.

Proven violations of the detailed regulations, as printed in the Handbook of Operating Procedures (HOP), and available in the Office of the Dean of Students and on the homepage of the Dean of Students at www.utep.edu/dos, may result in sanctions ranging from disciplinary probation, to a failing grade on the work in question, to a failing grade in the course, to suspension or dismissal, among others. (For more information, see: https://www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html)

Professionalism and Professional Conduct

While enrolled at the University, a student neither loses the rights nor escapes the responsibilities of citizenship. Thus, UTEP and the SOP value professionalism and expect all students to not only acquire but also maintain the highest standards of professional attitudes and behaviors in their interactions with their fellow classmates, staff,
faculty, colleagues and their patients, as described in the UTEP School of Pharmacy Student Handbook and as per UTEP’s student conduct policies (see https://www.utep.edu/student-affairs/osccr/student-conduct/index.html for further information). Any student who engages in conduct that is prohibited by the Board of Regents’ Rules and Regulations, University or SOP rules or by federal, state, or local law is subject to discipline whether such conduct takes place on or off campus or whether civil or criminal penalties are also imposed for such conduct. Please refer to the Student Handbook for specific expectations regarding professional conduct in the SOP (see Student Handbook: Table of Contents for Academic Progression: Good Standing: Professional).

Cell Phones
Students should carry cell phones, but keep the phone on the vibrate mode in the event students need to be notified by the emergency alert system. Disruptive cell phone use for the purpose of texting, email or social media is not permitted. This use is disruptive to fellow classmates, faculty and the learning environment. The use of a cell phone or the ringing of the phone in class is considered unprofessional behavior. No cellphones, calculators, laptops or other items may be used during an assessment (e.g., exam or a quiz) unless specifically as part of that assessment and approved by the faculty member/instructor.

Technical Assistance
Checking computer requirements and ensuring that all software up to date is essential for students to access course content. Supported browsers include – 1) For a PC: FireFox, Internet Explorer (Do NOT use IE7), and Chrome, 2) For a Mac: Safari, Firefox, and Chrome. To enhance browser performance, students should clear the browser cache and allow pop-ups. In addition to testing the web browser, check to ensure that the computer has an updated version of Java (go to http://java.com, click on “Do I have Java”, click on “Verify Java Version,” update Java if needed). Additional browser plug-ins may also be needed to view some content that your instructor may share on the learning management system. Common plug-ins include: Adobe Reader, Flash Player, Windows Media Player, QuickTime. When creating documents, slide presentations, spreadsheets, etc., be sure to use Microsoft Office or a compatible program (see 10 Free MS Word Alternatives). The UTEP Technology Support Services (3rd floor, UTEP Library) can also provide students with any applications, compatibility packs, patches, and updates that may be needed.

Students working off campus may need to set up a Virtual Private Network (VPN) on their computer to access UTEP resources for this class (i.e. Library). The link below provides information in setting up a VPN connection depending on the operating system. Students may contact the Help Desk for assistance (See Technical Assistance information). https://www.utep.edu/technologysupport/ServiceCatalog/NETVPNGlobalProtect.html

If technical problems are experienced with the course, students should contact the UTEP Helpdesk during: Monday– Friday: 8AM – 5PM. If calling within UTEP: 915.747.4357. If calling from outside UTEP: 915.747.5257. For more information, please visit http://helpdesk.utep.edu. For help with Blackboard: https://www.utep.edu/technologysupport/ServiceCatalog/BB_Students.html

Students can also visit an on-campus lab such as the ATLAS lab located within the Undergraduate Learning Center (UGLC building) for additional technical assistance. In addition to the various campus computer labs (ATLAS in UGLC or LACIT in Liberal Arts for example), Technology Support Services provides workstations for student use. To learn more, please visit: https://www.utep.edu/technologysupport/ServiceCatalog/BB_Students.html

UTEP and SOP Policy for Special Accommodations (ADA)
“If you have or suspect a disability and need classroom accommodations, you should contact the Center for Accommodations and Support Services (CASS) at 747-5148.” You can also e-mail the office at cass@utep.edu or go by their office in Union Building East (Room 106). For additional information, visit the CASS website at http://sa.utep.edu/cass/
Additional Information:

Campus Concealed Carry
Effective August 1, 2016.
http://sa.utep.edu/campuscarry/

Civility Statement
You are expected to follow basic standards of courtesy (http://admin.utep.edu/Default.aspx?tabid=73922) and may be dismissed from class for blatant or sustained disruptive behavior

Cell Phone Policy
Students should carry cell phones but keep the phone on the vibrate mode in the event students need to be notified by the emergency alert system. Cell phone use for the purpose of texting, email, or social media is not permitted. This is disruptive to fellow classmates, faculty, and the learning environment. The use of a cell phone or the ringing of the phone in class is considered unprofessional behavior. No cellphones, calculators, laptops or other items may be used during an assessment (e.g., exam or a quiz) unless specifically as part of that assessment and approved by the faculty member/instructor.

Student Support
UTEP provides a variety of resources for those in need (e.g., if you feel overwhelmed, stressed or dealing with a crisis):
• UTEP’s Counseling Center (free counseling to all students): 747-5302, which after-hours goes to a crisis line
• Mental Health Crisis Line: 779-1800
• National Suicide Prevention Hotline: 1-800-273-8255
• Veterans Crisis Line: 1-800-273-8255
• NAMI (National Alliance Against Mental Illness) of El Paso: 534-5478
• http://caringeducators.tumblr.com/survival

Title IX
Title IX of the Education Amendments of 1972 (Title IX), prohibit discrimination on the basis of sex in education programs or activities operated by recipients of Federal financial assistance. Sexual harassment of students, which includes acts of sexual violence, is a form of sex discrimination prohibited by Title IX. Sexual violence refers to physical sexual acts perpetrated against a person’s will or where a person is incapable of giving consent due to the victim’s use of drugs or alcohol. An individual also may be unable to give consent due to an intellectual or other disability. A number of different acts fall into the category of sexual violence, including rape, sexual assault, sexual battery, sexual coercion, stalking, and relationship violence. All such acts of sexual violence are forms of sexual harassment covered under Title IX.
In accordance with Title IX of the Education Amendments of 1972, UTEP does not discriminate on the basis of sex in the operation of its educational programs and activities. This commitment to non-discrimination applies to both employment in and admission to such programs and activities. [Link to full text at http://admin.utep.edu/Default.aspx?tabid=68750]
<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topics</th>
<th>Assignments</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/28/20</td>
<td>Course Intro / Review Biostatistics / Review of Journal Club Templates</td>
<td></td>
<td>Dr. Chang</td>
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<td></td>
<td></td>
<td>Dr. Frietze</td>
</tr>
<tr>
<td>2</td>
<td>9/4/20</td>
<td>RCT overview</td>
<td>T-test / ANOVA</td>
<td>Dr. Frietze</td>
</tr>
<tr>
<td>3</td>
<td>9/11/20</td>
<td>Paired t-test / Chi Square</td>
<td>Exercise #1</td>
<td>Dr. Frietze</td>
</tr>
<tr>
<td>4</td>
<td>9/18/20</td>
<td>OLS Regression</td>
<td>Journal Club #1 (RCT)</td>
<td>Dr. Frietze</td>
</tr>
<tr>
<td>5</td>
<td>9/25/20</td>
<td>Meta-Analysis / Systematic Review</td>
<td>Exercise #2</td>
<td>Dr. Frietze</td>
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<tr>
<td>6</td>
<td>10/2/20</td>
<td>Exam 1</td>
<td></td>
<td>Dr. Frietze</td>
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<tr>
<td>7</td>
<td>10/9/20</td>
<td>Review of Exam 1</td>
<td>Review of Epidemiology (RR / OR / IR)</td>
<td>Dr. Chang</td>
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<td></td>
<td>Journal Club #2 (Meta-Analysis / Systematic Review)</td>
<td>Dr. Frietze</td>
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<tr>
<td>8</td>
<td>10/16/20</td>
<td>Nonparametric Tests (Mann-Whitney U test / Wilcoxon Signed Rank Test)</td>
<td>Journal Club #3 (Case-Control study)</td>
<td>Dr. Chang</td>
</tr>
<tr>
<td>9</td>
<td>10/23/20</td>
<td>Logistic Regression</td>
<td>Exercise #3</td>
<td>Dr. Chang</td>
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<tr>
<td>10</td>
<td>10/30/20</td>
<td>Survival Analysis</td>
<td>Journal Club #4 (Odds Ratio)</td>
<td>Dr. Chang</td>
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<tr>
<td>11</td>
<td>11/6/20</td>
<td>Repeated Measure / Superiority / Non-inferiority</td>
<td>Exercise #4</td>
<td>Dr. Chang</td>
</tr>
<tr>
<td>12</td>
<td>11/13/20</td>
<td>Review exam 2</td>
<td>Journal Club #5 (Non-inferiority)</td>
<td>Dr. Chang</td>
</tr>
<tr>
<td>13</td>
<td>11/20/20</td>
<td>Exam 2</td>
<td></td>
<td>Dr. Chang</td>
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<tr>
<td>14</td>
<td>11/27/20</td>
<td>Thanksgiving Break</td>
<td></td>
<td>Dr. Chang</td>
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<tr>
<td>15</td>
<td>12/4/20</td>
<td>Wrap-up (Course)</td>
<td></td>
<td>Dr. Chang</td>
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<tr>
<td>16</td>
<td>TBD</td>
<td>Final exam</td>
<td></td>
<td>Dr. Chang</td>
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</tbody>
</table>