**STAT 19000/29000: The Data Mine (I or III)**

Syllabus Fall 2019

**Director:** **Dr. Mark Daniel Ward,** mdw@purdue.edu, HILL C129, (765) 496-9563

**Managing Director: Ms. Ellen Gundlach,** gundlach@purdue.edu, HILL C, (765) 496-6875

**Email:** datamine@purdue.edu

**Offices:**  Hillenbrand Hall, 1st floor, Central section

**Seminar times:** Mondays 10:30-11:20 am (lunch)

 Mondays 5:00-5:50 pm (dinner)

 Wednesdays 5:00-5:50 pm (dinner)

 Thursdays 10:30-11:20 am (lunch)

Thursdays 5:00-5:50 pm (dinner)

 (You only attend one of these, according to your MyPurdue schedule)

**Seminar location:** Hillenbrand Dining Hall Atrium (you must swipe or pay for a meal to get in)

**Office hours:** TA office hours are in the Hillenbrand C102 Study Lounge. The office hours schedule will be posted in the lobby of Hillenbrand and on The Data Mine’s website. Any TA can help you with your STAT 19000 homework during their office hours. TAs with a \* can also help STAT 29000 students with their homework easily. Another great way to get help is by using the Piazza discussion site.

**Course website:** [**datamine.purdue.edu**](datamine.purdue.edu)

**Piazza site:** You will receive an email during the first week of the semester telling you how to sign up for Piazza. Let Dr. Ward know if you don’t receive this.

**Course description:**

Computational tools for representing, extracting, manipulating, interpreting, transforming, and visualizing data, especially big data sets. Practical experience in effectively communicating insights about data. Topics include: the R environment, visualizing data, UNIX, bash, regular expressions, SQL, XML and scraping data from the internet, as well as selected advanced topics, as time permits. No prior computational or statistical experience is necessary.

**Prerequisites:** None for STAT 19000, but STAT 29000 Data Mine students must have completed a year in The Data Mine.

**Required materials:**

1. Living in Hillenbrand Hall as part of The Data Mine living learning community.
2. A meal swipe (or equivalent money) for entry to the weekly seminar.
3. A laptop to bring to the seminar and office hours.
4. Optional if you choose to work off-campus: VPN access. See [www.itap.purdue.edu/connections/vpn/index.html](http://www.itap.purdue.edu/connections/vpn/index.html) for more information.

**Course components and grades:**

Course grades will come from the weekly programming projects, attending the weekly STAT 19000/29000 seminars, and also from attendance at several outside events. See the details of each of these components in the separate sections below.

Projects (best 10 out of Projects #1-12) 70%

Final Project 10%

STAT 19000/29000 attendance: 10%

Outside event attendance: 10%

Total 100%

This course will follow the 90-80-70-60 grading scale for A, B, C, D cut-offs. +/- grades will be given at instructor’s discretion below these cut-offs. If you earn a 90.000 in the class, for example, that is a solid A. If you earn an 89.11 in the class, for example, this may be an A- or a B+.

**Projects:**

Each weekly programming project is worth 10 points. Your lowest 2 projects will be dropped, and these lowest 2 scores could include 0s from absences. Additional dropped projects would only be considered in the most extreme, documentable cases (for example, an extended hospital stay). No late work will be accepted, even if you are having technical difficulties, so do not work at the last minute. There are many opportunities to get help throughout the week, so there is no reason to struggle alone if you get stuck. Follow the instructions on the website for how to submit your projects properly through GitHub Classroom. It is ok to get help from others or online, although it is important to document this help in the comment sections of your project submission.

Each week, the project will be posted on the Friday before the seminar, the project will be the topic of the seminar and any office hours that week, and then the project will be due by 10 am on the following Monday. See the schedule for specific dates.

**STAT 19000/29000 attendance:**

Attending the weekly seminar is important, even if you are an expert on that week’s material. We expect all students to attend their assigned seminar each week and to help their classmates by participating in discussion. Students will find it useful to at least read over the weekly project, if not start the work, before attending the seminar. A student is allowed to miss up to 2 seminars during the semester, so save these absences for illness or times in the semester when you have evening exams. Attending class means participating in class—you should not be doing work for other classes, watching movies, etc. while you are in the STAT 19000/29000 seminar. Attendance will be taken each week through the use of name tags. It is important to pick up your name tag at the start of class each week and to turn in your name tag to the basket at the end of class. You must ONLY pick up and return your own name tag. Handling the name tag of another student to affect attendance records will be considered academic misconduct.

Extensions of deadlines or permission to miss seminar without penalty may be given only in rare cases, such as: the death of a family member; religious (or similar) observances; military leave; or mandatory attendance at an official Purdue event. Please contact Ellen Gundlach at least one week in advance of any planned events. A note from a doctor, or the Office of the Dean of Students, or other official, will be necessary for excused absences. Please see the [Purdue Regulations for Absences](http://www.purdue.edu/studentregulations/regulations_procedures/classes.html). The Provost provides these guidelines about student absences: "The University expects that students will attend classes for which they are registered. At times, however, either anticipated or unanticipated absences can occur. The student bears the responsibility of informing the instructor in a timely fashion, when possible. The instructor bears the responsibility of trying to accommodate the student either by excusing the student or allowing the student to make up work, when possible. The University expects both students and their instructors to approach problems with class attendance in a manner that is reasonable."

**Outside event attendance:**

Throughout the semester, The Data Mine will have many special events and speakers, many of which will be in Hillenbrand Hall for optimal convenience. We want to make sure you are taking advantage of these opportunities, so you are required to attend **4** of these over the semester (equivalent to 1 per month), but we hope that you will attend many more. These eligible opportunities will be posted on The Data Mine’s website each week. For each of the 4 required events, write a 1-page (double-spaced, 12-pt font) summary of the name of the event, the time and date of the event, what was discussed at the event, what you learned from it, and what new ideas you would like to explore as a result of what you learned at the event. You will need to submit these summaries within 1 week of attending the event, and the submission goes through Blackboard. This summary should be fairly quick and easy for you to write if you do it right after the event. ***All outside event documentation must be submitted by Friday November 22nd at 11:55 pm.***

**Grades on Blackboard:**

It is your responsibility to make sure the grades recorded on Blackboard are correct. You should also let your instructor know if you think something was graded incorrectly. However, all of this should be done in a timely manner. At the end of each month, you should let us know if the grades earned during the month are incorrect or missing. You should not wait until finals week to tell us that your Project #1 grade wasn’t recorded, for example.

**Section Changes/Drops:**

If you change your STAT 19000/29000 seminar section, please let the Managing Director, Ellen Gundlach, know right away, in addition to using MyPurdue. If you drop out of STAT 19000/29000 altogether, that could affect your ability to live in Hillenbrand Hall for the rest of the year because you agreed to be part of this *living* learning community.

**Class behavior:**

You are expected to behave in a way that promotes a welcoming, inclusive, productive learning environment. Be considerate of those in your group or at your table, and include everybody in your group or sitting nearby in any discussions. You need to be prepared for class each week. If you behave in a disruptive way or do not follow the instructor’s directions, you will lose class participation points and possibly be told to leave class without the opportunity to make up work that is missed during that class. Extreme or repeated disruptive behavior will be referred to the Dean of Students.

**Campus emergencies**:

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. Here are ways to get information about changes in this course: Blackboard or by e-mail from the course coordinator or your instructor. General information about a campus emergency can be found on the Purdue website: [www.purdue.edu](http://www.purdue.edu).

**Special needs:**

Purdue University strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: **drc@purdue.edu** or by phone: 765-494-1247.If you have been certified by the Office of the Dean of Students as someone needing a course adaptation or accommodation because of a disability OR if you need special arrangements in case the building must be evacuated, please contact your instructor during the first week of classes. We are happy to help you.

**CAPS Information**:   Purdue University is committed to advancing the mental health and well-being of its students.  If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765)494-6995 and <http://www.purdue.edu/caps/> during and after hours, on weekends and holidays, or through its counselors physically located in the Purdue University Student Health Center (PUSH) during business hours.

**Schedule:**

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| --- | --- | --- | --- | --- |
| **Week**  | **Date** | **New project posted** | **Seminars** | **Projects due** |
| 0 | F 8/16 | Project #1 posted |  |  |
| 1 | M 8/19 – Th 8/22 |  | Seminars for Project #1 |  |
| F 8/23 | Project #2 posted (this is a longer assignment) |  |  |
| 2 | **M 8/26** |  |  | **Project #1 due by 10 am on GitHub** |
| M 8/26 – Th 8/29 |  | Seminars for Project #2 |  |
| 3 | M 9/2 | Labor Day—no classes or office hours |
| T 9/3 – F 9/6 |  | No STAT 19000/29000 seminar, but office hours still happening |  |
| F 9/6 | Project #3 posted |  |  |
| 4 | **M 9/9** |  |  | **Project #2 due by 10 am on GitHub** |
| M 9/9 – Th 9/12 |  | Seminars for Project #3 |  |
| F 9/13 | Project #4 posted |  |  |
| 5 | **M 9/16** |  |  | **Project #3 due by 10 am on GitHub** |
| M 9/16 – Th 9/19 |  | Seminars for Project #4 |  |
| F 9/20 | Project #5 posted |  |  |
| 6 | **M 9/23** |  |  | **Project #4 due by 10 am on GitHub** |
| M 9/23 – 9/26 |  | Seminars for Project #5 |  |
| F 9/27 | Project #6 posted (this is a longer assignment) |  |  |
| 7 | **M 9/30** |  |  | **Project #5 due by 10 am on GitHub** |
| M 9/30 – Th 10/3 |  | Seminars for Project #6 |  |
| 8 | M 10/7 – T 10/8 | October Break—no classes or office hours |
| W 10/9 – F 10/11 |  | No STAT 19000/29000 seminar, but office hours still happening |  |
| F 10/11 | Project #7 posted |  |  |
| 9  | **M 10/14** |  |  | **Project #6 due by 10 am on GitHub** |
| M 10/14 – Th 10/17 |  | Seminars for Project #7 |  |
| F 10/18 | Project #8 posted |  |  |
| 10 | **M 10/21** |  |  | **Project #7 due by 10 am on GitHub** |
| M 10/21 – Th 10/24 |  | Seminars for Project #8 |  |
| F 10/25 | Project #9 posted |  |  |
| 11 | **M 10/28** |  |  | **Project #8 due by 10 am on GitHub** |
| M 10/28 – Th 10/31 |  | Seminars for Project #9 |  |
| F 11/1 | Project #10 posted |  |  |

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| --- | --- | --- | --- | --- |
| **Week**  | **Date** | **New project posted** | **Seminars** | **Projects due** |
| 12 | **M 11/4** |  |  | **Project #9 due by 10 am on GitHub** |
| M 11/4 – Th 11/7 |  | Seminars for Project #10 |  |
| F 11/8 | Project #11 posted |  |  |
| 13 | **M 11/11** |  |  | **Project #10 due by 10 am on GitHub** |
| M 11/11 – Th 11/14 |  | Seminars for Project #11 |  |
| F 11/15 | Project #12 posted |  |  |
| 14 | **M 11/18** |  |  | **Project #11 due by 10 am on GitHub** |
| M 11/18 – Th 11/21 |  | Seminars for Project #12 |  |
| **F 11/22** |  |  | **Last day to submit outside event documentation on Blackboard** |
| F 11/22 | Final Project assigned |  |  |
| 15 | **M 11/25** |  |  | **Project #12 due by 10 am on GitHub** |
| M 11/25 – Th 11/29 | No seminars or office hours(Thanksgiving Break – no classes 11/27 – 11/29) |
| 16 | M 12/2 – 12/6 |  | Seminars for Final Project |  |
| 17 | **M 12/9** |  |  | **Final Project due by 10 am on GitHub** |

**Academic misconduct: Collaborating or Working in Groups for STAT 19000/29000**

In STAT 19000/29000, we encourage students to work together. However, there is a difference between good collaboration and academic misconduct. We expect you to read over this list, and you will be held responsible for violating these rules. We are serious about protecting the hard-working students in this course. We want a grade for STAT 19000/29000 to have value for everyone. We may punish both the student who cheats and the student who allows or enables another student to cheat. Punishment could include receiving a 0 on a project, receiving an F for the course, and/or being reported to the Office of The Dean of Students.

**Good Collaboration:**

* First try the project yourself, on your own.
* **After** trying the project yourself, then get together with a small group of other students who have also tried the project themselves.
* Discuss ideas for how to do the more difficult problems, but document in the comments section any suggestions you took from your classmates or your TA.
* Finish the project on your own so that what you turn in truly represents your own understanding of the material.
* Look up potential solutions for how to do part of the project online, but document in the comments section where you found the information.
* If the assignment involves writing a long, worded explanation, you may proofread somebody’s completed written work and allow them to proofread your work. Do this only after you have both completed your own assignments, though.

**Academic Misconduct:**

* Divide up the problems among a group. (You do #1, I’ll do #2, and he’ll do #3: then we’ll share our work to get the assignment done more quickly.)
* Attend a group work session without having first worked all of the problems yourself.
* Participate in group work in class without coming to class prepared, allowing your partners to do all of the work while you copy answers down, or allowing an unprepared partner to copy your answers.
* Getting help from a classmate or a TA without documenting that help in the comments section.
* Looking up a potential solution online without documenting that help in the comments section.
* Reading someone else’s answers before you have completed your work.
* Have a tutor or TA work though all (or some) of your problems for you.
* Letting another student copy your work or doing the work for them.
* Uploading, downloading, or using old course materials from Course Hero or similar sites.
* Picking up your friend’s name tag so and putting it in the basket because they are running late or not able to make class, and you don’t want them to get counted as absent.
* Taking a name tag out of the basket so that somebody else is marked as absent who was actually in class.
* Coming to class only long enough to put your name tag in the basket without actually staying for seminar.

**Purdue Honors Pledge:**

“As a Boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue.”

**Purdue’s Academic Dishonesty Policy:**

*Purdue prohibits "dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty." [Part 5, Section III-B-2-a,* [*University Regulations*](http://www.purdue.edu/univregs/)*] Furthermore, the University Senate has stipulated that "the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest." [University Senate Document 72-18, December 15, 1972]*

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778.  While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

**Purdue’s Copyrighted Materials Policy:**

*Among the materials that may be protected by copyright law are the lectures, notes, and other material presented in class or as part of the course. Always assume the materials presented by an instructor are protected by copyright unless the instructor has stated otherwise. Students enrolled in, and authorized visitors to, Purdue University courses are permitted to take notes, which they may use for individual/group study or for other non-commercial purposes reasonably arising from enrollment in the course or the University generally.*

*Notes taken in class are, however, generally considered to be “derivative works” of the instructor’s presentations and materials, and they are thus subject to the instructor’s copyright in such presentations and materials. No individual is permitted to sell or otherwise barter notes, either to other students or to any commercial concern, for a course without the express written permission of the course instructor. To obtain permission to sell or barter notes, the individual wishing to sell or barter the notes must be registered in the course or must be an approved visitor to the class. Course instructors may choose to grant or not grant such permission at their own discretion, and may require a review of the notes prior to their being sold or bartered. If they do grant such permission, they may revoke it at any time, if they so choose.*



**EMERGENCY PREPAREDNESS**

**Hillenbrand Hall emergency plans:** [**https://www.purdue.edu/ehps/emergency\_preparedness/bep/hill-bep.html**](https://www.purdue.edu/ehps/emergency_preparedness/bep/hill-bep.html)

**EMERGENCY NOTIFICATION PROCEDURES are based on a simple concept – if you hear a fire alarm inside, proceed outside. If you hear a siren outside, proceed inside.**

* **Indoor Fire Alarms** mean to stop class or research and immediately **evacuate** the building.

Proceed to your Emergency Assembly Area away from building doors. **Remain outside** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.

* **All Hazards Outdoor Emergency Warning Sirens** mean to immediately seek shelter (**Shelter in Place**) in a safe location within the closest building.

“Shelter in place” means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, a civil disturbance including a shooting or release of hazardous materials in the outside air. Once safely inside, find out more details about the emergency\*. **Remain in place** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.

*\*In both cases, you should seek additional clarifying information by all means possible…Purdue Home page, email alert, TV, radio, etc…review the Purdue Emergency Warning Notification System multi-communication layers at* [*http://www.purdue.edu/emergency\_preparedness/warning\_system.htm*](http://www.purdue.edu/emergency_preparedness/warning_system.htm)

**EMERGENCY RESPONSE PROCEDURES:**

* Review the **Emergency Procedures Guidelines** <https://www.purdue.edu/emergency_preparedness/flipchart/index.html>
* Review the **Building Emergency Plan** (available from the building deputy) for:
	+ evacuation routes, exit points, and emergency assembly area
	+ when and how to evacuate the building.
	+ shelter in place procedures and locations
	+ additional building specific procedures and requirements.

**EMERGENCY PREPAREDNESS AWARENESS VIDEOS**

"Shots Fired on Campus: When Lightning Strikes," is a 20-minute active shooter awareness video that illustrates what to look for and how to prepare and react to this type of incident. See: <http://www.purdue.edu/securePurdue/news/2010/emergency-preparedness-shots-fired-on-campus-video.cfm> (Link is also located on the EP website)

**MORE INFORMATION**

Reference the Emergency Preparedness web site for additional information: <http://www.purdue.edu/emergency_preparedness>