Abigail Kamrowski has submitted a request for a major curricular change. His/her email address is: abigail.kamrowski@wsu.edu.

Course Subject: DATA

Course Number: 520

Title: Communication with Data

Repeat Credit: Yes; Cumulative maximum credits: 3

Lecture Hours: ~~2~~

Studio Hours: ~~2~~

Total Credits: ~~3~~

Prerequisite: None

Note revised description:
Communication with Data 1 May be repeated for credit; cumulative maximum 3 hours. Aspects of communication in data science are addressed in successive enrollments: verbal communication in a meeting or to an audience; technical writing and the peer review process; and storytelling with data. Typically offered Fall.

Catalog Description: DATA 520 is a 3 credit course that will be taught in 3 modules. Each module will be taught and graded separately. We would recommend taking Module 1 at the beginning of the PhD program, Module 2 in the middle of their program and Module 3 when students are writing their dissertation. Module 1 deals with verbal communication. This will involve effective communication one on one, in a meeting and to an audience. The nuances of how to ask good questions and answer effectively will be discussed. This will be discussed in the context of Data Science. Module 2 deals with written communication. Writing technical papers, reports, white papers will be the focus of the class. We will also look at reviewing technical papers, understanding the peer review process. The focus will be on telling the data story. Module 3 will cover the data story using both verbal and written communication.

Grading Type: Letter graded A-F

Requested Effective Date: Fall 2022

Dean: Swindell, Samantha - Assoc Dean - CAS

Chair: Dascupta, Nairanjana (Jan) – Chair – Data Analytics

_____   _____

UCORE Committee   All-University Writing
Approval Date   Com / Date

1. I approve this proposal in its current form.

Nairanjana Dasgupta
Director, Data Analytics
Boeing Distinguished Professor of Math and Science Education
Professor of Statistics
Washington State University
Pullman, WA 99164

From: curriculum.submit@wsu.edu <curriculum.submit@wsu.edu>
Sent: Thursday, September 30, 2021 2:48 PM
To: Dasgupta, Nairanjana (Jan) <dasgupta@wsu.edu>
Cc: Swindell, Samantha <sswindell@wsu.edu>
Subject: 669675 New or Restore Course: DATA 520

Dascupta, Nairanjana (Jan) – Chair – Data Analytics,

Swindell, Samantha - Assoc Dean - CAS,

Abigail Kamrowski has submitted a request for a major curricular change.

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From:	Swindell, Samantha
To:	Dasgupta, Nairanjana (Jan); curriculum.submit
Subject:	205 RE: 669675 New or Restore Course: DATA 520
Date:	Friday, October 1, 2021 9:35:08 AM
Attachments:	2021.09.30.14.47.38.65.currentFileUpload1_Syllabus_DATA_520_9_30 -clean.docx

Jan and Blaine,

A clear version of the syllabus for DATA 520 is attached, with tracked changes resolved.

==1. I approve this proposal in its current form.==

Blaine, please move this version forward.

Thank you,

Sam

From: Dasgupta, Nairanjana (Jan) <dasgupta@wsu.edu>
Sent: Friday, October 1, 2021 9:32 AM
To: Swindell, Samantha <sswindell@wsu.edu>
Subject: Re: 669675 New or Restore Course: DATA 520

Can you look at this to see if track changes are showing. Somehow track changes and I are not freinds...

Jan

Nairan***jan***a Dasgupta
Director Data Analytics
Boeing Distinguished Professor
Dept. of Mathematics and Stats
Washington State University
Pullman, WA 99164

From: Swindell, Samantha <sswindell@wsu.edu>
Sent: Friday, October 1, 2021 9:25 AM
To: Dasgupta, Nairanjana (Jan) <dasgupta@wsu.edu>
Subject: RE: 669675 New or Restore Course: DATA 520

Jan,

Rationale for DATA 520

As we move towards graduate degrees (and/or certificates) in Data Science or Data Analytics, it is imperative that we develop a class on communicating with data. This includes presentations both oral and written involving data. The focus for this class would be on telling a story with data and would be crucial for students planning a career in data sciences.

DATA 520: Communication with Data
Spring 2023

Schedule: **Module 1**: M 4:10 – 5pm, Spark 212
               Module 2: W 4:10 – 5pm, Spark 212
               Module 3: F   4:10 – 5pm, Spark 212

Pre-requisites: Interest in Data Science
Instructor: Nairanjana (Jan) Dasgupta
Office: Neill 403
Phone: 335-3736
e-mail: dasgupta@wsu.edu
Office Hours: Th 9:30-11:30, W 3-4
Class website: Canvas

Credit Structure: A repeatable 1-credit course with a maximum of 3-credits. Here, each "module" is considered as 1-credit of DATA 520.

Module 1 deals with verbal communication. This will involve effective communication one on one, in a meeting and to an audience. The nuances of how to ask good questions and answer effectively will be discussed. This will be discussed in the context of Data Science.

Module 2 deals with written communication. Writing technical papers, reports, white papers will be the focus of the class. We will also look at reviewing technical papers, understanding the peer review process. The focus will be on telling the data story.

Module 3 will cover the data story using both verbal and written communication.

Note: Each module will be taught and graded separately. We would recommend taking Module 1 at the beginning of the PhD program, Module 2 in the middle of their program and Module 3 when students are writing their dissertation.

Text: No required texts, but relevant papers will be posted on class website

Module 1: Verbal communication

Projected schedule for topics in Module 1 (this is a projection only)

Week 1-3: Types of Presentations
- One-on-one
- One-on-Many (talking to an audience)
- Many-on-one (meetings/interviews)

In each case we will focus on:
- Understanding your audience
- Length of presentation
- Using graphical display
- Ice-breaking
- Effective Communication

Week 4-6: Do short presentations and critique and be critiqued

Week 6-9: Non-verbal communication
- Importance of non-verbal communication,
- Body language,
- Adjusting style based on body language
- Tricks of the trade for communicating effectively with an audience.
- Understanding ego states in communication

Week 10-12: Presenting online to an audience
- Etiquette in using online medium for communication
- How to engage your audience in an online setting

Week 13-14: Presentations and peer review of presentations.

Week 15: Class discussion and wrap up.

Module 2: Written Communication

Projected schedule for topics in Module 2 (this is a projection only)

Week 1-2:
- What is a technical paper?
- What is a white paper?
- What is a report?
- Similarities and Differences

Week 3-4:
- Writing an abstract
- Including graphs and figures in write-up

Week 5-8:
- How to write a data story from start to finish

- Length of write-up
- APA style and others

Week 9-10:
- Bibliography
- Table of Content
- Figures

Week 11-14:
- Writing technical papers
- Peer reviewing technical papers
- Following up from peer reviewed comments

Week 15:
- Class discussion and wrap up.

Module 3: Communicating your data findings (verbal and written)

Projected schedule for topics in Module 3 (this is a projection only)

Week 1-3: Dissertation Writing
- Dissertation templates
- TOC
- Figures
- Summary
- Understanding Appendices

Week 4-7: Preparing a talk from your dissertation findings
- How to write summarize your findings
- Interactivity in graphics
- Engaging audience
- Understanding what to include and what not to include in a talk.
- Effective story telling with data

Week 8-12: Preparing papers from your dissertation
- Journal choice
- The Process of submission
- Peer review
- How to write rebuttals and revisions

Week 13-14
- Conducting an effective meeting
- Job talks

Week 15:
- Class discussion and wrap up.

Assessments for all three Modules:

There will be multiple types of assessments in this course: discussion reflections, oral presentations, written assignments, peer review and a final analysis including both oral and written presentations.

- **Discussion Reflections:** Each week, you will be required to post a reflection to Canvas summarizing and reacting to the in-class discussions and responding to the framing question that will be posed at the beginning of each class meeting.
- **Oral Presentation:** In Module 1 and Module 3 at the end of every two weeks, students will present on a data relevant topic. Here, you will be graded on your presentation skills, time management and content.
- **Written Assignments:** In Module 2 and 3 every other week an assignment will be posted to Canvas requiring you to analyze and disseminate information as a technical paper or white paper. You will be graded on your presentation skills: including writing effective abstracts, completion of thought, style.
- **Peer Review:** For both written and oral presentations, you will be assigned a peer who's work you will review. For oral presentations it will be an open review, for written presentation both blinded and unblinded reviews will be assigned.
- **Final Group Analysis:** The goal is to provide a critical assessment of the topic or data analysis you chose, focusing on the entire picture. Your work will be summarized in a 10-page final paper and each group will give a 10-minute presentation during the final exam period, describing their work and conclusions.

Late Policy

Given the collaborative nature of the class, late assignments are discouraged. However, in unavoidable circumstances you can turn in your assignments up to a week after your due date for full credit. After that no late work will be accepted.

Assessment	Percentage
Reflections	25%
Oral Presentations/Written Presentation[1]	40%
Peer Review	10%
Group Analysis	25%

[1]Module 1 will be more weighted towards oral presentations, Module 2 towards written and module 3 will weigh written and oral equally.

Grading:
Letter grades will be assigned for each module given according to the following ranges:
A (93–100%), A- (90–92.99%), B+ (87–89.99%), B (83–86.99%), B- (80–82.99%),
C+ (77–79.99%), C (73–76.99%), C- (70-72.99), D+ (67–69.99%), D (60–66.99%), F (less than 60%).

Participation and attendance
Lecture notes or relevant class material will be posted online, but reading the notes is not an adequate substitute for attendance. **You are also expected to participate in class discussions to a reasonable extent.** This aid learning and provides valuable feedback on the lecture. You need to bring your laptop or web-capable phone or tablet to each class session to complete the attendance survey. Each survey will typically include 2 questions: first question will ask you to enter the "attendance code" for the day and the second question will be about the lecture topic. This will be part of your Reflection grade. Attendance and assignment/project submissions on time is a strong indication that you care about this class and you put effort to succeed.
Rules of Conduct Students are expected to adhere to the WSU Honor code rules. Further, students are expected to make every effort to complete all requirements and to contact the course instructor to discuss any concerns.

Collaboration Policy
For the assignments you are encouraged (and sometimes required) to work with other students in the class. However, the work that you submit should be your own, and in particular, it should be written in your own words and communicated with your own understanding of the solution. If you do collaborate, please list the names of the other students you worked with on your submission. You may be asked to explain your reasoning individually to obtain full credit. Obtaining solutions from external sources like chegg or coursehero for course problems will be considered a violation of the academic integrity policy with consequences described below.

Student Learning Outcomes:

Student Learning Outcomes for this course: At the end of this course, students should be able to:	Course Topics/Dates The following topic(s)/dates(s) will address this outcome:	Evaluation of Outcome: This outcome will be evaluated primarily by:
After Module 1: Students will feel comfortable about standing in front of an audience	This will be covered in Weeks 1-14, with focus of presentations in week 13-14	Presentations, peer review

Understand their audience, length of presentation and how to include graphics in presentations	Will be covered all through with more focus in Week 3-6	Class discussion
After Module 2: Students will feel comfortable with technical writing as well as the peer review process	Will be covered from Week 1-14.	Written reports, peer review
After Module 3: Be able to independently tell a story with the data. This includes written and verbal communication.	From week 1 to week 14 this will be the underlying deliverable of this class	Independent report and presentation

<p style="text-align: center;">**Other relevant information:**</p>

Student work load: DATA 520 is a 3-credit course offered as an one credit at a time. **For each credit (module)** the student work load will be 1 hour (in class) + 2 hours (outside class) = 3 hours per week working on this course for each module.

COVID-19 Policy: Students are expected to abide by all current COVID-19 related university policies and public health directives, which could include wearing a cloth face covering, physically distancing, self-attestations, and sanitizing common use spaces. All current COVID-19 related university policies and public health directives are located at https://wsu.edu/covid-19/. Students who do not comply with these directives may be required to leave the classroom; in egregious or repetitive cases, students may be referred to the Center for Community Standards for university disciplinary action.

Academic Integrity: All members of the university community share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Students are responsible for understanding the full Academic Integrity Statement found here. Students who violate WSU's Academic Integrity Policy (identified in WAC 504-26-010(3) and -404) will receive an F grade, will not have the option to withdraw from the course pending an appeal, and will be reported to the Center for Community Standards. If you have any questions about what is and is not allowed in this course, you should ask course instructors.

Students with Disabilities: Reasonable accommodations are available for students with documented disabilities or chronic medical or psychological conditions. If you have a disability and need accommodations to fully participate in this class, please visit your campus' Access Center/Services website to follow published procedures to request accommodations. Students may also contact their campus offices to schedule an appointment with a Disability Specialist. All disability related accommodations are to be approved through the Access Center/Services on your campus. It is a university expectation that students visit with instructors (via email, Zoom, or in person) to discuss logistics within two weeks after they have officially requested their accommodations. For more information contact a Disability Specialist on your home campus:

> Pullman, WSU Global Campus, Everett, Bremerton, and Puyallup: 509-335-3417 Access Center (https://www.accesscenter.wsu.edu) or email at access.center@wsu.edu)
> Spokane: 509-358-7816 Access Services (https://spokane.wsu.edu/studentaffairs/access-resources/) or email j.schneider@wsu.edu
> Tri-Cities: Access Services (http://www.tricity.wsu.edu/disability/) or email g.hormel@wsu.edu
> Vancouver: 360-546-9238 Access Center (https://studentaffairs.vancouver.wsu.edu/student-wellness-center/access-center) or email van.access.center@wsu.edu

Accommodation for Religious Observances or Activities: Washington State University reasonably accommodates absences allowing for students to take holidays for reasons of faith or

conscience or organized activities conducted under the auspices of a religious denomination, church, or religious organization. Reasonable accommodation requires the student to coordinate with the instructor on scheduling examinations or other activities necessary for course completion. Students requesting accommodation must provide written notification within the first two weeks of the beginning of the course and include specific dates for absences. Approved accommodations for absences will not adversely impact student grades. Absence from classes or examinations for religious reasons does not relieve students from responsibility for any part of the course work required during the period of absence. Students who feel they have been treated unfairly in terms of this accommodation may refer to Academic Regulation 104 – Academic Complaint Procedures.

WSU Safety Measures: Please sign up for emergency alerts on your account at MyWSU. For more information on this subject, campus safety, and related topics, please view the FBI's Run, Hide, Fight video and visit the classroom safety page https://provost.wsu.edu/classroom-safety/.

Classroom and campus safety are of paramount importance at Washington State University and are the shared responsibility of the entire campus population. WSU urges students to follow the "Alert, Assess, Act" protocol for all types of emergencies and the "Run, Hide, Fight" response for an active shooter incident. Remain ALERT (through direct observation or emergency notification), ASSESS your specific situation, and ACT in the most appropriate way to assure your own safety (and the safety of others if you are able).