Faculty Senate Course Form

Effective Date: **Fall 2026** Submission Date:

Department: KUSB College of: **Business**

Contact Person: Alex Binder

Create New, Revise, Inactivate, or Reactivate: **New** Course #: **DSIS 245**

Course Form:
- Used to create new course numbers or new prefixes.
- Used to change Name, Grading, Hours, Description, Reactivate
- Used to inactivate a course from the current catalog. Courses are never deleted. They are made inactive and can be legislated to become active again.

1. Purpose/Justification for the New course or Changes to existing:

This course aligns with our new program focus on Data Science and Information Systems and gives students an introduction to the discipline and its content more toward the beginning of their degree timeline.

2. Is this related to, and/or affect, any other department/college/unit curricula or programs at Pittsburg State University? ***If "Yes", please provide an explanation. Provide documentation of any discussions (e.g. copies of emails, memos, etc.) that have occurred.***

○ Yes ◉ No

3. Is this course to be considered for General Education?
If "yes" this requirement will need approval of the General Education Committee after the revisions have been approved by Faculty Senate. The General Education Course Approval form will also need to be submitted.

◉ Yes ○ No

4. Will this course be required of any education majors?
If "yes," this requirement will need approval of the Council for Teacher Education **before** *upload to " College Curriculum Legislation" in SharePoint.*

◉ Yes ○ No

5. Will additional resources or costs be required?

◉ Yes ○ No

If so, what will be needed?

6. Will any additional course fees be required (e.g. equipment, clothing, travel, licensing, etc.)?
If "yes," complete the Course Fee Form on the Faculty Senate website, it will need to gain approval of the President's Council.

◯ Yes ◯ No

7. Objectives/Student Learning Outcomes for NEW courses only, as it will appear in the syllabus:
Attach with upload.

8. Assessment Strategies (e.g. exams, projects, university rubric, etc.), as it will appear in the syllabus:
Attach with upload.

Course Numbers cannot be changed, only created.

	Exsisting	New/Proposed
Title:		Principles of Data Science
Course Number:		**DSIS 245**
Credits:		**3**
Grading System:	**Select One**	**A-F, IN**
Pre/Co-Requisite(s):		DSIS 230
Course Description:		This course provides introduction to the field of Data Science. Students will develop skills in appropriate technology and basic statistical methods by completing hands-on projects focused on real-world data and addresses the social consequences of data analysis and application.

Authorization Sign-Off

Checklist: Check once verified.

- ✔ Required fields completed.
- ✔ Syllabus attached for new courses
- ✔ Assignment Strategies Attached

-Approved: Department Chair/Director
Date: 12/8/25 Signature, Chair/Director: Alexander D. Birch

-Approved: College Curriculum Committee
Date: 1/8/26 Signature, Committee Chair: Jennifer Pursley

-Approved: Dean of College
Date: 01/15/26 Signature, Dean: Paul W. Grimes

-Approved: Council for Teacher Education (if applicable)
Date: _____ Signature, Council Chair: _____

-Approved: University Undergraduate Curriculum Committee
Date: _____ Signature, Committee Chair: _____

-Approved: Faculty Senate
Date: _____ Signature, Recorder Faculty Senate: _____

Originating Departments(s): After completing this form, please upload it to the SharePoint, within the appropriate College folder, "Preliminary Legislation", to allow for review and questions. Any modifications should be saved as "original file name.v2.docx" and uploaded as well.

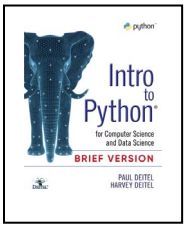
Following final College Curriculum Committee approval, please apply the appropriate signatures, and send them to your College Administrator.

KELCE
COLLEGE OF BUSINESS
Pittsburg State University

Course Syllabus:
Principles of Data Science
DSIS 245
Kelce Center 105
TTh 9:30 – 10:45 am, Spring 2025

Instructor: Dr. David Sikolia
Office: Kelce 223D
Hours: TTh 2:00 – 3:30, MW 9:00 – 12:00
Phone: 620-235-6040
E-mail: dsikolia@pittstate.edu

Textbook



Revel for Intro to Python for Computer Science and Data Science (Brief Version), 1st edition
Published by Pearson (July 31, 2023) © 2023

Paul Deitel Deitel & Associates, Inc.Harvey M. Deitel Deitel & Associates, Inc.
ISBN-13: 9780137508563

Catalog Course Description

This course provides introduction to the field of Data Science. Students will develop skills in appropriate technology and basic statistical methods by completing hands-on projects focused on real-world data and addresses the social consequences of data analysis and application.

Prerequisites

Prerequisite: DSIS 230 Introduction to Programming.

Course Objectives / Learning Outcomes

1. Explain the importance of and be able to formulate a clear, concise, and measurable data analysis problem statement.
2. Identify and appropriately acknowledge sources of data.
3. Apply basic data cleaning techniques to prepare data for analysis.
4. Identify the categorical and/or numerical data types in a given data set.
5. Use appropriate descriptive and inferential methods to summarize data and recognize associations and relationships.
6. Utilize suitable tools and technology to collect, process, transform, summarize, and visualize data.
7. Draw accurate and meaningful conclusions from a data analysis.
8. Communicate methods and findings effectively in various modes.
9. Distinguish between ethical and unethical uses of data science.

Course Outline

Date	Topic
January 20th	Introduction to Computers and Python
January 27th	Introduction to Python programming, Control Statements, and Program Development
February 3rd	
February 10th	Functions; Sequences: Lists and Tuples
February 17th	
February 24th	Dictionaries and Sets
March 3rd	
October 8th	**Mid-term exam**
March 10th	Array-Oriented Programming with NumPy
March 17th	**Spring Break!**
March 24th	Strings: A Deeper Look
March 31st	Files and Exceptions
April 7th	
April 14th	Object-Oriented Programming
April 21st	
April 28th	Machine Learning: Classification, Regression and Clustering
May 5th	
May 12th	**Final's week**

Teaching Methods

In this course, we will use a flipped classroom model to maximize student engagement and deepen understanding of the material. Students will complete assigned readings, watch video lectures, or explore interactive materials before class. This preparation allows our in-class sessions to focus on active learning, such as discussions, group activities, case studies, and problem-solving exercises. By taking responsibility for initial content exploration outside the classroom, students are better prepared to participate actively, reflect upon, and apply new concepts during class, ultimately promoting a richer and more collaborative learning experience.

Canvas

The Canvas system will be used as a primary means to distribute class materials and information. You must check the Canvas frequently for class announcements, quizzes, assignments, and exam information.

Attendance Policy

Please attend class and keep up with all the assignments. All assignments must be on time to be accepted.

There is always the possibility of us needing to meet remotely due to weather or other reasons – I plan for these to be ***synchronous*** unless otherwise noted.

Classroom Conduct
Please always be professional and adhere to the student code of conduct policy by Kelce College of Business.

Academic Integrity

All Pitt State students are bound by the university's academic integrity policies as described and outlined in the current Syllabus Supplement. Please familiarize yourself with these rules and guidelines. In addition, as a course offered through the Kelce College of Business, students in this class are obligated to adhere to the college's Student Code of Ethics as outlined below.

Students pledge to:

- Arrive on time, remain until dismissed at all class sessions, and notify instructors in advance of anticipated absences, late arrivals, or early departures whenever possible.
- Turn off cell phones or other electronic devices while in class, unless permission to use them has been granted.
- Refrain from class disturbances.
- Refrain from use of profane or vulgar language in a threatening or disruptive manner.
- Treat fellow students, staff, faculty, administrators, and property with respect.
- Refrain from giving or receiving inappropriate assistance.
- Prepare assignment and exams honestly, refraining from such unacceptable conduct as plagiarism or unacknowledged appropriation of another's work in any academic work.
- Obey the policies, regulations, and laws of the United States of America, the State of Kansas, The Kansas Board of Regents, Pittsburg State University, and the Gladys A. Kelce College of Business.
  If a student observes someone committing dishonesty in connection with academic work, the student is encouraged to report that dishonesty to the appropriate individual (ex, faculty member, or administrator).

- **Students with Disabilities**

- Please inform the instructor if you have a learning or physical disability that interferes with course requirements. Assistance and/or appropriate accommodations may be available through the contacts listed on the current Syllabus Supplement.

Course Evaluation Methods

1. Exams – 300 points (Mid-term and Final 150 points each).
2. In-class quizzes, group activities, case studies, and problem-solving exercises (300 points).
3. Revel assignments (300 points total): Assignments are due at the specified time on the due date.

Late assignments will NOT be accepted and will receive a zero.

4. Participation (100 points) will include in-class activities such as contributions to discussions and attendance.

5. Throughout the semester, there might be extra credit opportunities. However, extra credit assignments cannot be made up.

6. Grades: The grading scale is as follows: 90% to 100%, A; 80%-89%, B; 70% - 79%, C; 60% - 69%, D; Below 60%, F.

7. Although I sympathize with personal conflicts (needing a B to graduate, needing a C to stay in school, etc.), I believe that they cannot validly be considered in grade calculations. Giving personal considerations to one student is unfair to the rest of the class. Therefore, personal conflicts will not be considered in grade calculation. So, please do not ask.

Faculty Notification of Student Academic Progress

You can track your progress and grades in this course through the Canvas gradebook. I anticipate grading your work within one week of the assignment's deadline. I participate in the Navigate progress reporting system and will also report midterm grades.

Notes

Please see PSU's Syllabus Supplement for this semester, available through the Registrar's Office at:

https://www.pittstate.edu/faculty-staff/_files/documents/faculty-senate/documents/syllabus-supplement-25sp.pdf

The instructor reserves the right to amend and reorganize this syllabus anytime. You will be notified if this occurs.

Faculty Senate Course Form

DSIS 245

Student Learning Outcomes

1. Explain the importance of and be able to formulate a clear, concise, and measurable data analysis problem statement.
2. Identify and appropriately acknowledge sources of data.
3. Apply basic data cleaning techniques to prepare data for analysis.
4. Identify the categorical and/or numerical data types in a given data set.
5. Use appropriate descriptive and inferential methods to summarize data and recognize associations and relationships.
6. Utilize suitable tools and technology to collect, process, transform, summarize, and visualize data.
7. Draw accurate and meaningful conclusions from a data analysis.
8. Communicate methods and findings effectively in various modes.
9. Distinguish between ethical and unethical uses of data science.

Assignments and Assessments

The total number of points you can earn in this course is 100, plus up to 2 extra credit points, so you cannot treat points from the course assignments and assessments as percentages of your overall course grade.

Reading and Discussion Assignments: These tasks involve completing several brief readings on a relevant data science topic. A set of discussion questions related to the reading will be provided, and you will need to create a discussion post responding to those questions. These are more subjectively graded and will receive a score; the main focus here is participation.

Problem Sets: These assignments will typically include a mix of direct questions about the lecture material and chances for you to apply the methods we discuss to real data.
Quizzes: These individual assignments cover theoretical concepts and generally consist of 10 multiple-choice questions.

Midterm Exam: There will be a single exam at the semester midpoint.

Final Project: The final assessment in the course will be a project, where you will complete a data analytics task from beginning to end.