

DES 523 Info Design Data Visualization

Pino Trogu

Professor, School of Design

www.trogu.com

Syllabus – Spring 2026

BULLETIN DESCRIPTION

Introduction to the field of information design focusing on data visualization problems for digital media, print, and environmental communication. Activity. (Plus-minus letter grade only) [Formerly DAI 523]

PREREQUISITES

Restricted to upper-division Design majors or minors; DES 200, DES 300, DES 322, DES 325, DES 327, DES 356, and DES 370; or permission of the instructor.

This course is plus-minus letter grade only – no CR/NC option.

MISSION STATEMENT

The School of Design serves a diverse cohort of students in the areas of Product Design and Visual Communication Design at both the undergraduate and graduate levels. Our curricula emphasize design process as a means of problem solving, and our classes help students to build the technical, conceptual, critical, and collaborative skills required in design professions.

CREDIT HOUR CALCULATION FOR ACTIVITY COURSES

This course is a 3-unit activity course.¹ Direct instruction time is 150 minutes (2.5 hours) in-person and 150 minutes asynchronous (video lectures and demonstrations) on average per week. The asynchronous assignment each week is to review the videos pertaining to the assignments that we will work on the following week, which will benefit the one-on-one instruction in class. The minimum expectation for out-of-class work (homework) is 150 minutes (2.5 hours) on average per week, but may extend to as much as 4 hours per week.

COURSE DESCRIPTION & GOALS

This class introduces students to the field of information design. In particular, students will complete a series of exer-

CLASS HOURS: In-Person & Asynchronous

Thursday only 9–11:45 am Room FA 119

OFFICE HOURS: Thurday 9–12 am

Room HUM 248 or Zoom

email: trogu@sfsu.edu

web: faculty.sfsu.edu/~trogu

San Francisco State University
College of Liberal and Creative Arts
School of Design

Note: individual items in this syllabus are subject to change.

Last update: January 26, 2026

cises and projects that explore data visualization problems in print and some optional screen applications.

The class goal is to enable students to develop the skills needed to successfully practice data visualization. Emphasis is placed on the ability to visualize numerical data sets, and organize these visualizations into meaningful configurations through visual storytelling.

TOPICS

Education, the economy, politics and elections, education, health, sports and technology. Other topics can be arranged but all topics must be approved in advance by the instructor.

LEARNING OUTCOMES

1. Create visually correct graphs such as bar and line graphs, scatterplots, treemaps, maps, and timelines.
2. Review and apply current technologies used in data visualization such as: R, Tableau, Excel, Numbers, and Illustrator.
3. Create clear, effective information hierarchies for a variety of topics using appropriate graph types and visual storytelling.
4. Mastery of typographic principles of legibility, contrast, and clarity.
5. Introduce students to a methodical process to develop prototypes and arrive at the optimal solution.
6. Discussion of intuitive and innovative data visualization techniques.
7. Discussion of legibility issues and differences between digital and analog applications.
8. Psychology of perception and cognitive science research, especially theories of working memory, learning, and remembering, and their relation to cultural conventions, conventions of representation, and shared background knowledge. These topics are outlined in my handbook and article which can

be accessed by clicking on the links below.

[Small Handbook of Data Visualization](#)

[Counting But Losing Count: the Legacy of Otto Neurath's Isotype Charts](#)

DEFINITION

“Information Design is concerned with making complex information easier to understand and to use. It is a rapidly growing discipline that draws on typography, graphic design, applied linguistics, applied psychology, applied ergonomics, computing, and other fields. It emerged as a response to people’s need to understand and use such things as forms, legal documents, computer interfaces and technical information. Information designers responding to these needs have achieved major economic and social improvements in information use.”²

NEW YORK TIMES

ONLINE SUBSCRIPTION

Open a free online account with The New York Times, courtesy of SF State's Leonard Library. NYT is a great resource for general content as well as data sources. Search all issues going back to 1851. Click the link below to activate your account.

[Leonard Library NYT Account Setup](#)

INSTRUCTION

All demos, videos, and assignments will be posted on Canvas, including PDFs and links to online resources. Instructor will review the assignment and provide direct instruction. As time allows, individual feedback will be given that benefits the whole class. There will also be short critiques of everyone's projects. Students are encouraged to share their work and receive feedback not only from the instructor but also from fellow students.

CRITIQUES & FEEDBACK ON WORK

Feedback will be provided throughout the semester. Students are encouraged to

1. Credit Hour Definition: The SFSU definition of the credit hour aligns with the CSU (12/21/2020 Memo), WSCUC (Credit Hour Policy), and federal law (600.2 and 600.4 rev. 7/12/2020). University's [Credit Hour Policy S22-299](#).

2. From *About Information Design*, by Sue Walker and Linda Reynolds. Typography and Graphic Communication Department, University of Reading, U.K.

DES 523 Info Design 1

Data Visualization

Pino Trogu

Syllabus – Spring 2026

San Francisco State University
College of Liberal and Creative Arts
School of Design

Note: individual items in this syllabus are subject to change.

Last update: January 26, 2026

interact with the instructor during in-class discussions, listen attentively, and raise questions and concerns as they arise. Written feedback will be given with the grading of mid-point and final reviews of projects. The critique is a common practice in design education and professional practice. Critiques are fundamental for the improvement of a student's awareness of the expectations regarding the quality of their work. During critiques, comments and remarks are directed at the students' work, not their personal characteristics, beliefs, preferences, or identities. The language used by both instructor and students should be respectful, focus on objective analysis and constructive criticism, and avoid subjective value judgements.

CLASS COMMUNICATIONS

Class materials such as links to pre-recorded videos, PDFs, and other resources are available on Canvas. Email is the preferred mode of communication outside of class times. *Students are required to check their SF State email address.* Note that you cannot forward your SF State email to a personal email address. Messages to students will also be sent via *Announcements* in Canvas. Install the Canvas Student app in your devices so that you can receive those announcements in a timely manner.

LETTER GRADES & POINTS

A	96-100
A-	92
B+	88
B	84
B-	80
C+	76
C	72
C-	68
D+	64
D	60
F	59-0

The grading scale is distributed evenly: there are ten possible letter grades (D is not included) plus F. Each letter has a range of 4 points, evenly spaced from 100 to 60 (from A to D); F ranges from

Table 1. Possible grades for each assignment. Points and corresponding letter grades, rounded to the nearest decimal.

Letter/points	10	50	75	100	150	200
A	9.6	48	72	96	144	192
A-	9.2	46	69	92	138	184
B+	8.8	44	66	88	132	176
B	8.4	42	63	84	126	168
B-	8.0	40	60	80	120	160
C+	7.6	38	57	76	114	152
C	7.2	36	54	72	108	144
C-	6.8	34	51	68	102	136
D+	6.4	32	48	64	96	128
D	6.0	30	45	60	90	120
F	<60	<30	<45	<60	<90	<120

Late points (15%) 1.5 7.5 11 15 22.5 30

59 to 0.

- A. Performance of the student has been of the highest level, showing sustained excellence in meeting course responsibilities and personal potential.
- B. Performance of the student has been good, though not of the highest level.
- C. Performance of the student has been adequate, satisfactorily meeting the course requirements.
- D. Performance of the student has been less than adequate.
- F. Performance of the student has been such that course requirements have not been met.

SFSU grading policy

bulletin.sfsu.edu/policies-procedures/grading/#gradingpolicy

PROJECT WEIGHTS

The course has four projects/categories with the following percentages:

1. Datasets – 11x17	14.9 %
2. Small Poster	25.5 %
3. Booklet or Wild Card	38.3 %
4. Attendance	21.3 %
TOTAL	100.0 %

ASSIGNMENT IDENTIFICATION

All assignments must be identified with the following credits in the sequence shown below. Note: the first number will be your 2-digit roster sequential number (leading zero if applicable), not your student ID number.

| FirstName LastName | DES 523 | Project # | Trogu | SFSU | Spring 2026

PASSING GRADE

For students in the School of Design, a grade of "C" or higher is required to pass the class, for it to count towards your DPR (Degree Progress Report) and graduation. There is no CR/NC option (only plus or minus letter grade).

GRADING RUBRIC

There are three projects in the semester. Preliminary steps in projects are graded on general completion and are 10 points each. Final steps in projects are 100 or 200 points and will be graded according to the following rubric.

- 1. Concept and novelty of idea: 20%
- 2. Research and iteration: 15%
- 3. Appropriateness of tools and chosen encodings (correct choice of type of graph): 15%

DES 523 Info Design 1

Data Visualization

Pino Trogu

Syllabus – Spring 2026

4. Craftsmanship and attention to detail in graphic visualizations. Attention to typography, layout, and editorial content, including orthography, completeness of sources and credits, as well as project credits: 50%.

GRADES ON CANVAS

On Canvas you can check your grade for individual assignments, for each category, and for the overall course grade. An empty grade in any assignment does not affect your overall grade.

WORK REVISIONS

Only those assignments submitted on time can be revised and resubmitted for a better grade, up to a maximum of one full extra letter grade above the original grade. Note: being due at the end of the semester, the final submission for Project 3 cannot be revised.

LATE WORK

As noted in the course schedule, assignments will be due on Thursdays at 9 am. If an assignment is late, the grade will drop by 15% for the week in which it was due, and 15% for each additional late week, calculated after all other criteria have been applied. See Table 1 for specific points and corresponding letter grades. If you have questions about how you are doing in the class or disagree with a given grade, email me or schedule an appointment to discuss your progress.

ATTENDANCE GRADE

Attendance in every class meeting is mandatory. This category is worth 21.3% of the total class grade. A grade of C (72/100) is required to pass this category and necessary to pass the course.

A grade lower than C in this category will also result in an automatic final registrar grade of C- or lower in the course, overriding a possible higher overall grade in Canvas.

There are 15 class meetings in the semester, plus one final Thursday during exam week. Attendance points will be

deducted, if applicable, beginning in the first week of classes.

Attendance points: 100 pts
Each absence = 7 pts
Each tardy or leave-early = 2 pt

Failing the attendance category means missing more than 4 meetings (28 points), or missing more than the equivalent combination of absences, tardies, and leave-early, resulting in a grade of C- (less than 72/100) or lower for the category.

Attendance is taken at start of class. Tardy means arriving after roll has been taken. If you arrive after roll is taken, it's your responsibility to alert me so that you are only marked late and not absent. Leave-early means leaving class before the scheduled end of the class. If you need to leave early for any compelling reason please ask in advance. If you arrive to class half hour after roll is taken, then 3 points will be deducted. If you leave class half hour before the end of class, 3 points will also be deducted.

Excused absences include being sick or other major events involving serious circumstances that prevent you from coming to class. The instructor reserves the right to accept or reject the "seriousness" of the circumstances as described by the student. You must email me in advance or as soon as possible if you know you can't come to class because you feel sick that day or because of major events as described above.

NO CELLPHONE USE IN CLASS

Cellphone use is not permitted in the classroom during the official class time. At the start of class or upon arrival if late, you are required to place your phone in your assigned space in the cabinet set up for this purpose.

If you need to login to Canvas, please do so prior to the start of class using the Duo authentication app or other method. I recommend that you also get a physical token as an alternative authentication method. You can request one here:

San Francisco State University
College of Liberal and Creative Arts
School of Design

Note: individual items in this syllabus are subject to change.

Last update: January 26, 2026

its.sfsu.edu/service/mfa

With a physical token you don't need your phone to login. This will also work when traveling abroad and have no access to your US number.

You can use your phone during the regular morning break, typically from 10:15 to 10:30 am, but only outside the classroom. Step outside the classroom any time you are to use your phone – no exceptions!

If you need to consult online class materials during regular class time, use your laptop instead or a tablet if you have one. However, other non-course related activities such as texting, internet surfing, and other social media personal activities are also not permitted on laptops or other electronic devices.

Two points will be subtracted from the attendance category for each instance of phone usage and each laptop usage not directly related to classroom work.

ACADEMIC CALENDAR

Classes will meet during the time listed in the university's bulletin: Thursdays from 9:00 to 11:45 am. The final critique for project 3 will be on Thursday, May 14, 2026. The class will not meet during Finals Week.

The weekly schedule for the course will be posted on Canvas. The schedule may change during the semester to accommodate emerging circumstances, in which case students will be notified.

CLASSROOM STANDARDS AND PROFESSIONALISM

The classroom is a special environment in which students and faculty come together to promote learning and growth. It is essential to this learning environment that respect for the rights of others seeking to learn, respect for the professionalism of the instructor, and the general goals of academic freedom are maintained. Differences of viewpoint or concerns should be expressed in such ways that students and faculty are encouraged to learn and reason with clarity and com-

DES 523 Info Design 1

Data Visualization

Pino Trogu

Syllabus – Spring 2026

San Francisco State University
College of Liberal and Creative Arts
School of Design

Note: individual items in this syllabus are subject to change.

Last update: January 26, 2026

passion, to share opinions and perspectives without losing their identities, and to develop an understanding of their community. Students whose conduct disrupts the learning process will be asked to leave the classroom.

Design is a professional discipline, and students should behave professionally in class and when presenting work. Use of laptops, cell phones or other electronic devices is not permitted during group critiques or presentations, unless when directly required to present class-related work. Students working on their project while presentations are ongoing will be asked to leave the classroom.

NO EATING OR DRINKING IN CLASS (WATER OK)

No food or drinks of any kind except water are to be consumed in the classroom at any time, including during lunch time. Students who eat or drink during class will be asked to leave. Please be respectful of your fellow students and the teacher to ensure that we keep a clean and welcoming environment. Similar to the cellphone policy, **I will subtract 2 points from the attendance category for each instance of eating or drinking in the classroom as described above.**

MATERIALS & TOOLS

All projects with the possible exception of the Wild Card option in project 3 (if you choose interactive or web design) are print-based or other physical artifacts. The department has 11x17 and large format color printers and some projects can be printed in-house.

These are the specifications for each project:

1. Datasets: 11 x 17 card stock paper printed in color.
2. Small poster: 17 x 22 printed in color.
3. One of two options:
 - (A) 8-page 7.5 x 10 or 16-page 5 x 7.5 booklet printed in color.
 - (B) Wild card option. Open format that may be printed on paper or be digital only (screen). Other formats like

audio, video, sculpture, performance, etc, are also possible.

INPUT DEVICE: PHYSICAL MOUSE

For this class, when using a laptop computer, you must use a physical mouse, not the built-in trackpad!

Working on spreadsheets and datasets with just a trackpad can get very frustrating quickly. Selecting, cutting, and inserting text or numerals from one location to another in a document requires complex movements that are much easier to complete using a mouse instead of a trackpad.

In addition to the laptop and mouse, you should have a pencil, sketch paper, tracing paper, and a physical ruler with inches and picas (pica ruler or printer's ruler).

See Canvas for the software programs needed for this class. They are all available as free educational versions from SF State and the respective companies, or available as free, open source versions.

RECOMMENDED BOOKSTORE

William Stout Architectural Books
804 Montgomery St, San Francisco
stoutbooks.com

BIBLIOGRAPHY & RESOURCES

Go to Canvas for book suggestions, links to articles, websites, and other resources. Individual assignments will list specific resources needed for those projects.

DISABILITY POLICY

Students with disabilities who need reasonable accommodations are encouraged to contact the instructor. The Disability Programs and Resource Center (DPRC) is available to facilitate the reasonable accommodations process.

The DPRC is located in the Student Services Building and can be reached by voice telephone: (415) 338-2472
videophone: (415) 335-7210
email: dprc@sfsu.edu
website: access.sfsu.edu

STUDENT DISCLOSURES OF SEXUAL VIOLENCE

SF State fosters a campus free of sexual violence, including sexual harassment, domestic violence, dating violence, stalking, and/or any form of sex or gender discrimination. If you disclose a personal experience as an SF State student, the course instructor is required to notify the Title IX Coordinator by completing the report form on this website, where more information on Title IX can also be found: titleix.sfsu.edu
email: vpsaem@sfsu.edu
telephone: (415) 338-2032

To disclose any such violence confidentially, contact instead:

The SAFE Place: (415) 338-2208

dos.sfsu.edu/safeplace

Counseling and Psychological Services Center: (415) 338-2208
psyservs.sfsu.edu/

OBSERVANCE OF RELIGIOUS HOLIDAYS

The Academic Senate Policy on the Observance of Religious Holidays (S09-212) indicates that "The faculty of San Francisco State University shall accommodate students wishing to observe religious holidays when such observances require students to be absent from class activities..." The following is a link to an Interfaith Calendar, which lists "Primary sacred times for world religions": interfaith-calendar.org

Complete details regarding this Policy, including implementation, can be found on the Academic Senate website:

Observance of Religious and Cultural Holidays, S19-2J2

COVID-19 SAFETY INFORMATION

COVID-19 Positive Exposure

CHEATING & PLAGIARISM

Cheating is the actual or attempted practice of fraudulent or deceptive acts for

DES 523 Info Design 1

Data Visualization

Pino Trogu

Syllabus – Spring 2026

San Francisco State University
College of Liberal and Creative Arts
School of Design

Note: individual items in this syllabus are subject to change.

Last update: January 26, 2026

the purpose of improving one's grade or obtaining course credit; such acts also include assisting another to do so. Typically such acts occur in relation to examinations. However, it is the intent of this definition that the term "cheating" not be limited to examination situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means.

Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others by misrepresenting the materials (i.e. their intellectual property) so used as one's own work. Penalties for cheating and plagiarism range from a zero or F on a particular assignment, through an F for the course, to expulsion from the university. For more information on the University's policy regarding cheating and plagiarism, refer to the University Catalog (Policies and Regulations).

Information about the College of Liberal & Creative Arts policy and procedures regarding plagiarism can be found at the following URL:

ica.sfsu.edu/plagiarism-resources

Code of Best Practices in Fair Use for the Visual Arts, Published by the College Art Association:

best-practices-fair-use-visual-arts.pdf

Other fair use links:

fairuse.stanford.edu/overview

en.wikipedia.org/wiki/Fair_use

CANVAS SUPPORT

canvas.sfsu.edu/

email: at@sfsu.edu

telephone: **(415) 405-5555**

room LIB 80, J. Paul Leonard

Library. Office Hours: 8am to 8pm Monday through Thursday; 8am-5pm Friday

DROPPING CLASS AND WITHDRAWING

Through the third week of classes, students may drop a class or faculty may drop students "who do not attend the

first class meeting or do not meet the course criteria" as specified in the Bulletin. Afterwards, please be aware that a WU (unauthorized withdrawal) grade is counted as an F for GPA purposes. To avoid a WU grade, you are encouraged to drop before the end of the third week if you think you will not be able to "meet the course criteria."

In Spring 2026, the student drop deadline is Monday, February 16, 2026.

See also page 6: Honor Pledge

Important: Please also note that:

"(...) faculty are authorized to instructor-drop students who do not meet the course prerequisites or who do not participate at all during the drop period (i.e. not attending or handing in assignments, or otherwise indicating the intent to take the course."

From "Dropping and Withdrawing", under "Drop (weeks 1 to 3 of instruction)".

registrar.sfsu.edu/withdrawal

In Spring 2026, faculty can instructor-drop students until Wednesday, February 11, 2026.

From the beginning of the fourth week through the twelfth week of instruction, withdrawal from a course will be permissible, for serious and compelling reasons, by consulting the faculty member teaching the course. The student must complete a "Petition for Withdrawal from Course or University" and submit the petition to the instructor for a decision. Such approved withdrawals will result in a "W" grade, which does not affect your GPA. The full university rules regarding withdrawals can be found at:

registrar.sfsu.edu/withdrawal

You, the student, are responsible for withdrawals and should be aware of relevant deadlines related to the withdrawal process. All important dates are listed in the Academic Calendar for the specific semester:

webapps.sfsu.edu/public/
webcal.acadcalendar

DES 523 Info Design 1

Data Visualization

Pino Trogua

Syllabus – Spring 2026

San Francisco State University
College of Liberal and Creative Arts
School of Design

Note: individual items in this syllabus are subject to change.

Last update: January 26, 2026

RIGHTS AND RESPONSIBILITIES

We have placed a lot of emphasis in this country on the idea of people's rights. That's how it should be, but it makes no sense to talk about rights without also talking about responsibilities.

*from The Last Lecture
by Randy Pausch*

In the spirit of Prof. Pausch's remarks, this syllabus is an agreement listing the rights and responsibilities between you, the student, and myself, the teacher.

You have the responsibility to be honest in your work and work constructively with the teacher and the other students. In return, you have the right to be in the course and receive constructive feedback from the teacher. This will be in the form of grading and comments on the assignments or communication via email, in addition to direct instructor feedback and support during the class meetings.

I will read every email – the preferred mode of offline communication – and will try to respond promptly to the best of my ability.

HONOR PLEDGE

I pledge on my honor that I will complete all the assignments in this course in full honesty and without the improper help from others. In addition, I pledge to be honest with regards to the attendance policy, and request absences to be excused only if they are truly due to sickness or other serious circumstances, and I accept responsibility for any other unexcused absence and its resulting point deductions.

In regards to course work, I pledge that all work submitted will be my original work and that, if approved by the instructor, all external contributions will be properly acknowledged and cited. I also pledge to not use Artificial Intelligence (AI) programs or websites to automatically create any charts, diagrams, infographics, maps, or other two- or three-dimensional artifacts that could be used towards the completion of assignments in this course. I will consult with the instructor in advance for clarification that might be needed for a particular assignment with regards to the processes above, and to determine what is acceptable, and what is not, regarding the use of technologies, including AI, to complete the deliverables required in the course.

I pledge to follow the above processes and be honest about my work in this course throughout the semester.

I have read the syllabus and the honor pledge above.

Signature _____

Print name: _____

Date: _____

Many thanks to Prof. Natalia Porter for sharing portions of her class syllabi previously used in her courses at SF State.

A printed copy of this page will be available in class on the first day of instruction, for you to sign and date and give back to the instructor.