Content. Do we see the world the way we do because we are the way we are or because the world is the way it is? The ease with which we comprehend the visual world, and recognize objects and events, makes it tempting to think that the world is just the way we see it and to take our perceptual capabilities for granted. But when we comprehend that we cannot process all the information available in the environment, when we try to build machines that can see, or when we encounter people who have lost some specific visual capability—for example, persons who can no longer recognize faces—we realize how extraordinary and intricate are the machinery and mechanisms of sight. This course looks at what we know about vision from multiple scientific perspectives: perceptual psychology tells us about the process of seeing, and provides important insights into the workings of visual mechanisms; neuropsychology shows us what happens to perception when these mechanisms malfunction; neuroscience tells us about processes at the level of cells and neural systems. At the same time, we will discuss modes and techniques of scientific inquiry from these different perspectives. How do vision scientists learn? What kinds of experiments do they conduct? How has the development of new neuroimaging techniques (fMRI, for example) shaped the field?

Skills. Communication skills will be stressed throughout the course. You will write a reaction paper, an opinion paper, a research paper and present orally the research paper. You will also be required to write some exercises that will help you develop the papers.

Readings. Sensation & Perception (2016, 10th edition) by E.B. Goldstein. This book provides an excellent overview of how the senses work. We will concentrate on vision, the dominant sense, and read Chapters 1-6. Additional readings include scientific articles, essays, and a theater play. All readings are due before class. The textbook is available in hardcover, as well as various electronic versions. It may be purchased or rented in either print or electronic format.

- Publisher's website for purchasing & renting hardcover and electronic format: www.cengagebrain.com
- Also available new and used online at Amazon.com: hardcover textbook only | book plus CD-ROM | Kindle ebook

Writing Requirements

Write a formal paper in which you present your research in the study of visual perception, presenting an argument about the significance of your findings.

In both graded final drafts of your research paper, you must:
- introduce your critical question to the reader
- explain relevant research and its significance
- support your claims with evidence
- analyze evidence persuasively and cite responsibly
- present your ideas in a compelling, clear, and organized manner


**Tips**

- Follow guidelines from the Lennie handout *Clear and Simple Scientific Writing*, located on our NYU Classes site.
- Study sample student papers provided on our NYU Classes site.

**Grading.** Grading is based on your reaction paper (5%), opinion paper (draft-10%; final-10%), topic and question for research paper (10%), research paper on a topic of your choice (draft-10%; final-20%), oral presentation based on your research paper (draft-5%; final-20%), and class participation (10%).

**Undergraduate Writing Tutors Program**

In this class, we are fortunate to have help from the Undergraduate Writing Tutors Program. Writing tutors are well-trained peers who provide feedback to students on drafts of writing assignments. Their role is to encourage and challenge students to strengthen their writing and clarify their ideas. Writing tutors are trained to support the aims of the class, learning about the expectations for writing in the class and listening and responding carefully to individual student writers. While writing tutors are not Teaching Assistants and will not assess papers, they will focus writing conferences on questions that generate clearer writing and stronger thinking about the content. Writing tutors will also look for patterns of grammatical errors in student papers and explain how students can learn to correct these errors. The writing tutors’ main goals are to help students develop their writing and thinking in response to particular assignments and to become better writers over the long term. Their primary aim is to work with students through a practice-based approach to writing and revising. That is, they will ask questions and work to prompt students to reread, rethink, revise, and craft new writing during conferences.

Students are required to participate in the program for each designated paper assignment, submitting of a draft of their paper on time for written feedback and attending a scheduled, 30-minute long, one-on-one conference. Writing tutors should receive *complete drafts* from students, not outlines or rough notes. *Late submission* of drafts to tutors and *missed conferences* are reported to the Professor, who may reduce a student’s final grade as a consequence.

Writing coordinator and mentor of writing tutors:
Leah Souffrant – [ljs17@nyu.edu](mailto:ljs17@nyu.edu)

Writing tutors:
Helen Kemprecos – [hjk591@nyu.edu](mailto:hjk591@nyu.edu)
Maria Goetz – [mrg520@nyu.edu](mailto:mrg520@nyu.edu)
SCHEDULE [FALL 2018]

(1) Sept 6
Introduction to Perception and the course
Intro, discussion on slides

(2) Sept 13
Introduction to Perception
– Lecture
– In-class discussion of Ackerman’s chapter

Chapter 1 (20 textbook pages)
[1 page reaction paper on the class slides (2 copies); 5% of grade]
[will get feedback from writing tutors]
Diane Ackerman, “Vision”, *Natural History of the Senses*, NY; 60 pages

(3) Sept 20
The beginning of the perception process
– Lecture
– In-class discussion/debate on play

Chapter 2 (28 textbook pages)
In the burning darkness, by Antonio Buero Vallejo — play 40 pages

(4) Sept 27
– Meet in Bobst Lobby, by the elevators at 9:20
Film: “Going Blind” (Bobst, Avery Fisher Center 9:30 AM)
– How to search scientific databases and the anatomy of a scientific paper (Bobst, 6th floor, RM 619, 11:00 AM)

Lennie’s handout on writing – 2 pages
[check 3 Chapters (5 to 10) to think of a research topic; about 75 pages]

(5) Oct 4
To see and not to see
– In-class discussion/debate on reading

Oliver Sacks, “To See and Not See”
<br/>&lt;readings relevant to research question&gt;

(6) Oct 11
Neural processing
– Lecture
– Peer review (handout)
– In-class Peer review of draft

Chapter 3 (24 textbook pages)
[Draft of 2-pages opinion paper (3 copies); 10% of grade]
<br/>&lt;readings relevant to research question&gt;

(7) Oct 18
Cortical organization
– Lecture
– Explain how to ask a Research question

Chapter 4 (20 textbook pages)
[2-3 pages Opinion paper–10% of grade; 1/2 page of possible enquiry (2 copies)]
<br/>&lt;readings relevant to research question&gt;

(8) Oct 25
Neuroimaging

<br/>&lt;read the relevant textbook chapter depending on topic, a review chapter and 3-5 scientific papers&gt;
– In-class discussion of Question [Topic and Question for Research Paper; include ~4 sources and explain their relevance - 10% of grade]

– Lecture on neuroimaging
– Center for Brain Imaging, Meyer Building

(9) Nov 1
Writing and reading workshops
– Writing Workshop based on Scientific American article [Leah Souffrant, the Writing Center]
– Reading workshop based on reading (read ~4 scientific papers*)

(10) Nov 8
Perceiving objects and scenes
– Lecture
Perceptual demos (positive afterimages)

Nov 8-15 individual meetings with writing tutors regarding your draft of your research paper

(11) Nov 15
Visual attention
– Lecture

(12) Nov 22 – Thanksgiving

(13) Nov 29
Visual attention / On magic

Dec 3-7 individual meetings with writing tutors regarding your draft of your research paper

(14) Dec 6 – Oral presentations
– Peer Review of Draft
– In class Peer Review of Slides [Draft of slides for oral presentation; 5% of grade]

(15) Dec 13 – we will meet for 3 hours
Students’ oral presentations of Research Paper 8 Oral presentations [20% of grade]
(16) Dec 20 – we will meet for 3 hours

**Students’ oral presentations of Research Paper**

8 Oral presentations [20% of grade]

**FINAL PAPER: ~15 pages [20% of grade]**

* depending on topic and question of your research paper