

*Special Topics in Psychology:*  
**Cognition, Neuroscience, and Cinema (Cr.3)<sup>1</sup>**  
50:830:452:01  
Mon Wed, 3:45 – 5:05 PM  
Professor: Sean Duffy, Ph.D.  
Rutgers-Camden Department of Psychology  
(Office: ARM 345, hours before and after class and by arrangement)  
[seduffy@scarletmail.rutgers.edu](mailto:seduffy@scarletmail.rutgers.edu)

**Abstract:**

Too often, academics gerrymander the sciences and humanities. Occasionally, however, the paths of seemingly disparate fields do cross. For example, film scholars have recently taken note of discoveries in cognitive science; at the same time, scientists, led by their research into cognition and perception, have embraced tenets of philosophy and aesthetics. This course emerges from this fortunate convergence. We begin with the idea that one field of study can enrich the other, and with a firm conviction that everyone likes a good film. Throughout this course, we will use cognitive science and neuroscience to shed light on our experiences of film; at the same time, we will use film studies to raise important questions about the nature of perception, cognition, and consciousness. Our topics include models of cognitive science (top-down and bottom-up), theory of mind, mirror neurons, affect, touch, the limbic system, attention, memory, psychopathology, and disabilities.

**Course Goals:**

This course has three specific goals: (1) to introduce students to recent advanced in neurosciences and cognitive science in order to better understand the experience of cinema; (2) to help students learn how to ask good questions and hold intelligent conversations about the methods and findings of psychological sciences and how such discourse can improve students' appreciation, understanding, and experience of watching films and (3) to encourage the development of analytical and writing skills through practice, feedback, and conversation.

Textbook: ***Film Appreciation (2020)***. Moss, Y., & Wilson, C. (**Free** Open Educational Resource...)

Link: <https://alg.manifoldapp.org/projects/film-appreciation>

Book PDF also provided here in Canvas under "Files" folder as "Cinema\_TextBook.pdf"  
Other readings will be posted in the Files folder in Canvas.

The course will involve weekly readings, assigned films, and discussions integrating the two. Most films available on Rutgers Library systems Kanopy and Digital Campus, but a few are on netflix or on youtube for a small rental fee. The cost of film rentals for this class is under ~\$20 for the semester.

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<sup>1</sup> I would like to acknowledge the contributions of film scholar Matthew Desiderio, Ph.D. to an earlier version of this course, which we co-taught in 2011.

### **Course Requirements:**

1. Ability to stream films through Netflix, Hulu, youtube and Rutgers Library
2. Watching films on your own time to discuss in class. Completing readings.
3. Weekly quiz on films and readings. (20% of final grade)
4. Weekly discussion questions posted on canvas, and replies to your classmates. (20% of final grade)
5. Daily attendance & participation. Students are expected to be discussion leaders once during the semester, give a short presentation about the readings and film for the day. (20% of final grade)
6. An experiential project in which you immerse yourself by writing about seeing a film at a theater (20% of final grade)
7. Final paper/project - see end of syllabus. (20% of final grade)

### **Details on Evaluations / Expectations:**

**Weekly quiz:** Quizzes will ensue that you watch films and read the assigned readings carefully, paying attention to details. I give quizzes to assure that you watch the films, as it is difficult to have a conversation in class about films that only a minority of students have watched.

**Online Discussion questions:** Every week, you will be asked to post a discussion question that addresses that week's readings and films by SUNDAY the night before class (by 9 PM). Then once other students have posted their questions, return to canvas to post your replies to the discussion questions that arose from the materials. In this way we can get an online conversation going before class that may continue into the class period.

**Class Discussion leader:** You will be tasked with leading a discussion about the readings and films for a particular day. The discussion should focus on the context and history of the film itself. Students will be expected to find and present a psychology/neuroscience study that is relevant to the film and speak about that as well. You are expected to attend every class session in person and contribute to the conversations and discussions.

**Experiential paper:** For this paper I want you to go to a cinema to watch a film, paying careful attention to the sensory, perceptual, psychological, and sociological aspects of the experience. We are so used to streaming films at home in 2024 that I feel it would be beneficial for you to experience a film in the context in which they were developed to be screened. Maybe have some popcorn, soda, and candy and immerse yourself in the experience and write 3-5 pages that address the experience, making a point to address some of the cognitive and neuroscience issues that we have discussed so far in the class.

**Final Project:** In lieu of an exam, I would like you to complete a final project or paper for this course. I leave open the possibility that you may want to "break through the 4th wall" and do something outside of the usual paper for the class, although a well-written paper is just fine. But perhaps you are interested in screenwriting and would like to write a script that addresses cognitive science, or perhaps you are a novice filmmaker and would like to do a short film or documentary about a topic, or perhaps you would like to interview a cognitive scientist on how their own work speaks to the issues we address in the course. I don't want to constrain your own thinking about this, but I want you to also have fun with it.

**Caveat Emptor:** In constructing a course like this, there are a million directions one could follow in selecting films. I selected a set of films that best represented to me, at the time, some of the issues I wanted to address in this special topics course. Surely there are alternative films that

might better represent some of the ideas, and I did not factor in certain factors such as gender and culture as I would had this been a course about culture and film or gender and film. This is a course about cognition, neuroscience and film, and to try and include too much, from too many angles, would unnecessarily dilute the point of the course. There are other film courses in other departments that address broader issues.

**Content Warning:** In this course I understand that we will be watching courses, some of which are on topics that may be disturbing or disquieting. Some of the films are from genres such as horror or thrillers and may be frightening to watch. However, all of the films used in this course are commonly available films that have been viewed by millions of people. By taking this course I acknowledge that I understand that I might experience negative reactions to some materials and that the university has resources to deal with such reactions. Please see the professor if you experience any issues.

**Other information will be posted at the end of the syllabus.**

## COGNITION, NEUROSCIENCE, AND CINEMA SCHEDULE FALL 2024

### WEEK 1: Intro

Wed Sept 4: Introduction to the course

### WEEK 2: Setting the scene

#### Readings:

1. *Film Appreciation (2020)* Part 1: Film History
2. Pickersgill, M. (2013). The social life of the brain: Neuroscience in society. *Current Sociology*, 61(3), 322-340.
3. Gallese, V., & Guerra, M. (2022). The neuroscience of film. *Projections*, 16(1), 1-10.

#### Films:

- Mon Sept 9: ***Cinema Paradiso (1988)***: Youtube (and other platforms)
- Wed Sept 11: ***The Artist (2011)***: Youtube (and other platforms)

### WEEK 3: Sehnsucht

#### Readings:

1. Borghi, A. M., Fini, C., & Mazzuca, C. (2023). Embodied, Embedded, Enacted Cognition. *The Sage Handbook of Cognitive and Systems Neuroscience: Cognitive Systems, Development and Applications*, 418.
2. Chatterjee, A., & Vartanian, O. (2016). Neuroscience of aesthetics. *Annals of the New York Academy of Sciences*, 1369(1), 172-194.
3. Scheibe, S., Freund, A. M., & Baltes, P. B. (2007). Toward a developmental psychology of Sehnsucht (life longings): The optimal (utopian) life. *Developmental psychology*, 43(3), 778.

#### Films:

- Mon Sept 16: ***Mank (2020)***: Netflix **Or *The Conversation (1974)* [Prime]**

- Wed Sept 18: **Citizen Kane (1940)**: Youtube (and other platforms)

#### **WEEK 4: Narrative and Memory**

##### Readings:

1. *Film Appreciation (2020)* Part 2: Narration
2. Diana, R. A., & Wang, F. (2018). Episodic memory. *Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience, Learning and Memory*, 1, 67-100.
3. Luiten, P., Nyakas, C., Eisel, U., & Van der Zee, E. (2022). Aging of the Brain. In *Neuroscience in the 21st Century: From basic to clinical* (pp. 3115-3149). Cham: Springer International Publishing.

##### Films:

- Mon Sept 23: **Sunset Boulevard (1950)**: <https://tinyurl.com/2hddtf8c>
- Wed Sept 25: **Rear Window (1955)**: <https://tinyurl.com/yc3fa4yb>

#### **WEEK 5: Remembering and forgetting**

##### Readings:

1. Redfern, N. (2013). Film style and narration in Rashomon. *Journal of Japanese and Korean Cinema*, 5(1-2), 21-36.
2. Bragues, G. (2008). Memory and morals in memento: Hume at the movies. *Film-Philosophy*, 12(2), 62-82.
3. Davis, D., & Loftus, E. F. (2018). Eyewitness science in the 21st century: What do we know and where do we go from here?. *Stevens' handbook of experimental psychology and cognitive neuroscience*, 1, 1-38.

##### Films:

- Mon Sept 30: **Memento (2000)**: <https://www.kanopy.com/en/rutgers/video/1485021>
- Wed Oct 2: **Rashomon (1950)**: <https://www.kanopy.com/en/rutgers/video/113253>

#### **WEEK 6: Setting the Stage: Mise en scène**

##### Readings:

1. *Film Appreciation (2020)* Part 3: Mise en scene
2. Cacioppo, S. , Capitanio, J. P. & Cacioppo, J. T. (2014). Neurology of Loneliness. *Psychological Bulletin*, 140 (6), 1464-1504.
3. Vaccaro, A. G., Kaplan, J. T., & Damasio, A. (2020). Bittersweet: the neuroscience of ambivalent affect. *Perspectives on Psychological Science*, 15(5), 1187-1199.

##### Films:

- Mon Oct 7: **In The Mood for Love (2004)**: <https://www.kanopy.com/en/rutgers/video/219420>
- Wed Oct 9: **Children of Men (2006)**: <https://digitalcampus.swankmp.net/rutgers313400/watch/EE9BC0E43A7B7209?referrer=direct>

#### **WEEK 7: Interlude: Identity and psychopathology**

##### Readings:

1. Patrick, C. J., & Bernat, E. M. (2022). Neurobiology of psychopathy.
2. Spanagel, R., Zink, M., & Sommer, W. H. (2022). Alcohol: neurobiology of alcohol addiction. In *Neuroscience in the 21st Century: From Basic to Clinical* (pp. 4013-4043). Cham: Springer International Publishing.

Films:

- Mon Oct 14: **Awakenings (1990)**: <https://digitalcampus.swankmp.net/rutgers313400/watch/F5C1A65CAEEBE136?referrer=direct>
- Wed Oct 16: **Flight (2012): (Or Days of Wine and Roses)** <https://digitalcampus.swankmp.net/rutgers313400/watch/F9CB128391B7E65D?referrer=direct>

**WEEK 8: Images and Mirages: Cinematography and science fiction**

Readings:

1. *Film Appreciation (2020)* Part 4: Cinematography
2. Frishman, L. J. (2005). Basic visual processes. *Blackwell handbook of sensation and perception*, 53-91.
3. Sagan, C. (1977). Chapter from *Broca's Brain*.

Films:

- Mon Oct 21: **Inception (2010)**: <https://tinyurl.com/5n6jruvd>
- Wed Oct 23: **Interstellar (2014)**: <https://tinyurl.com/2estpte6>

**WEEK 9: Famous phrases, famous scenes.**

Readings:

1. ONE MORE READING
2. Kupers, R., & Ptito, M. (2011). Insights from darkness: what the study of blindness has taught us about brain structure and function. *Progress in brain research*, 192, 17-31.

Films:

- Mon Oct 28: **City Lights (1933)**: <https://www.kanopy.com/en/rutgers/watch/video/113147>
- Wed Oct 30: **Blade Runner (1982)**: <https://digitalcampus.swankmp.net/rutgers313400/watch/C9BD78E96D3A71E0?referrer=direct>

**WEEK 10: Editing and Emotion**

Readings:

1. *Film Appreciation (2020)* Part 5: Editing
2. Fox, E. (2018). Perspectives from affective science on understanding the nature of emotion. *Brain and neuroscience advances*, 2, 2398212818812628.
3. Decety, J., Pape, R., & Workman, C. I. (2018). A multilevel social neuroscience perspective on radicalization and terrorism. *Social neuroscience*, 13(5), 511-529.

Films:

- Mon Nov 4 [please go vote Nov 5]: **The Great Dictator (1940)**: <https://www.kanopy.com/en/rutgers/watch/video/127225>

- Wed Nov 6: **Get Out (2017)**:  
<https://digitalcampus.swankmp.net/rutgers313400/watch/479263B4E3B6BDBD?referrer=direct>

## WEEK 11: Sound

### Readings:

1. *Film Appreciation (2020)* Part 6: SoundB
2. Sacks, O. (2006). The power of music. *Brain*, 129(10), 2528-2532.
3. Article on Social media and neuroscience

### Films:

- Mon Nov 11: Black Mirror: **Nose Dive**; Black Mirror: **Be Right Back (Netflix)**
- Wed Nov 13: **Her (2013)**:  
<https://digitalcampus.swankmp.net/rutgers313400/watch/CFD5A5E7D04F030F?referrer=direct>

## WEEK 12: Music

### Readings:

1. That article on language parsing?
2. Loui, P., & Przysinda, E. (2017). Music in the brain: Areas and networks. In *The routledge companion to music cognition* (pp. 13-24). Routledge.
3. Picard, R. W. (2001, June). Building HAL: Computers that sense, recognize, and respond to human emotion. In *Human Vision and Electronic Imaging VI* (Vol. 4299, pp. 518-523). SPIE.

### Films:

- Mon Nov 18: **Dunkirk (2017)**: Netflix
- Wed Nov 20: **2001: A Space Odyssey (1968)**: Multiple Ways to View

## WEEK 13: Silence

### Readings:

1. Petit, C., El-Amraoui, A., & Avan, P. (2022). Audition: hearing and deafness. In *Neuroscience in the 21st Century: From Basic to Clinical* (pp. 1075-1142). Cham: Springer International Publishing.
2. Patterson, M. L., Fridlund, A. J., & Crivelli, C. (2023). Four misconceptions about nonverbal communication. *Perspectives on Psychological Science*, 18(6), 1388-1411.
3. Emmorey, K. (2023). Ten things you should know about sign languages. *Current directions in psychological science*, 32(5), 387-394.

### Films:

- Mon Nov 25: **In the Land of the Deaf (1992)**  
<https://www.kanopy.com/en/rutgers/video/114177>
- Wed Nov 27: THANKSGIVING NO CLASS

## WEEK 14: Documentary and Experimental film

### Readings:

1. *Film Appreciation (2020)* Part 7 & 8: Genre and beyond

2. Bondebjerg, I. (2014). Documentary and cognitive theory: Narrative, emotion and memory. *Media and Communication*, 2(1), 13-22.
3. Minsky, M. L. (1982). Why people think computers can't. *AI magazine*, 3(4), 3-3.

Films:

- Mon Dec 2: **Samsara (2011)**: <https://tubitv.com/movies/469240/samsara>
- Wed Dec 4: **Lo and behold: Revelries of a connected world (2016)**: <https://www.kanopy.com/en/rutgers/video/2191362>

**Week 15: Fin**

- Readings: None since it is the last class.
- Mon Dec 9: Presentation of Final Projects / Recap of course.