San José State University
College of Social Science, Department of Psychology
Psychology 190, Current Issues Capstone, Section 8
Spring 2020

Instructor:	Dr. Cheryl Chancellor-Freeland
Office Location:	DMH 317 (Check CANVAS for the URL)
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Office Hours:	Tues. 1:15 – 2:24 PM
Class Days/Time:	Tue./Thurs. 12:00 – 1:15 PM
Classroom:	DMH 348 (Again, check the CANVAS course page for location until Feb. 15th)
Prerequisites:	Psyc 1 (Intro to Psychology), Stat 95 (Elementary Statistics), Psyc 30 (Biopsychology), Psyc 100W (Writing Workshop in Psychology), and Psyc 120 (Advanced Research Methods).

Description: Psychology 190 is your capstone course in psychology. This section is designed for students who have some background and interest in neuroscience. Topics for discussion will be key issues that have shaped one aspect of psychology, biopsychology and its research over its relatively brief history. Initial discussions include the interplay between genes and experience in behavior, including gene-environment interactions and epigenetics. We will learn some basic facts about stress physiology, and immune functioning, and will examine environmental influences on these systems in a variety of settings. Examples from different stages of the lifespan (prenatal to adulthood) will be presented. Another key topic includes neuroplasticity and mind/body issues. Some studies will be those that are found in textbooks, but in a diluted fashion so as to mislead students about the study's true impact and influence on the field. This course is intended to reevaluate key issues and studies, and to bring new ones into focus. It is my hope that that the topics that I have chosen for this class will provide you with a greater understanding of biopsychology's roots and current issues in the field. I also hope to stimulate your curiosity about two of the hottest topics in psychology, neuroplasticity and epigenetics.

This course is roughly organized into two parts. The first approximately 2 months of the course (primarily lecture and discussion- some student-led) are designed to provide the foundation and direction for subsequent investigation. This part of the course should provide you with ideas for your final research report and for you applied SDNP study. The remaining semester will involve students' in-depth analysis and review of particular topics. This part of the course will include your collection of your self-study data, and your mini-con presentation. The final paper is an individual endeavor wherein you will

report findings from one topic have dived deep into. This is expected to be the findings from literature review and final topic.

Finally, a primary aspect of this class is a little bit different than many of your previous classes in psychology, we will actually put of some of the concepts from the semester into practice.

I hope that that the topics that I have chosen for this class will provide you with a greater understanding of biopsychology's roots and current issues in the field. I hope to stimulate your curiosity about two of the hottest topics in psychology, neuroplasticity and epigenetics. But moreover, I hope you will accept the challenge and join me in an exercise of self-directed neuroplasticity!

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Course Goals and Learning Outcomes: This course should complete students' baccalaureate education by broadening scientific knowledge and by providing a basis with which to develop educated opinions about issues that will affect future academic, professional, and everyday life pursuits. More specifically, this course will provide some historical perspective and current knowledge of studies that you have previously learned about. You should expect a better understanding of some of the philosophical assumptions, experimental methods, and empirical findings during this semester. Specific topics will be explored in detail, providing students with research and critical thinking skills, as well as an in-depth understanding of particular current topics in the field of psychology.

Course Goals and Student Learning Objectives

Course Learning Outcomes (CLOs)

Upon successful completion of this course, students will be able to:

CLO1– Students will be able to –identify, describe, and communicate the major concepts related to historical and contemporary issues in psychology and biopsychology. Assessment for this will be on midterm I, class discussions, and final presentations.

CLO2 – *Students will be able to* –describe, and communicate the major issues and theoretical perspectives associated with genetics, motivational systems and learning processes. Assessment for this CLO will be conducted in the midterm and class presentations and article summaries.

CLO3 – *Students will be able to* –identify, describe, and communicate experimental approaches and associated empirical findings for various methodological approaches in neuroscience. Assessment for this CLO will be conducted primarily in article summaries and presentations.

CLO4 – *Students will be able to* – think critically and creatively about neuroscience approaches to address issues related to behavioral and

mental health processes. This CLO will be assessed in essay-type questions on primarily on the final exam and the final research report.

CLO5 – *Students will be able to* – apply neuroscience principles to individual, interpersonal and group behavioral and mental health issues. This will be assessed on the final project presentation.

Program Learning Outcomes (PLO)
Upon successful completion of the psychology major requirements…

PLO1 – Knowledge Base of Psychology – Students will be able to identify, describe, and communicate the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.
PLO2 – Research Methods in Psychology – Students will be able to design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations.
PLO3 – Critical Thinking Skills in Psychology – Students will be able to use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes.
PLO4 – Application of Psychology – Students will be able to apply psychological principles to individual, interpersonal, group, and societal issues.
PLO5 – Values in Psychology – Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society.

Text : Readings are provided in PDF format.

American Psychological Association (2009). Publication manual of the American Psychological Association. (6th ed.). Washington, DC: American Psychological Association.

Requirements: The requirements for this class include: one midterm, final poster presentation, one lecture presentation, a final research report (literature review; due 5/12), a discussion co-lead, and article summary/response papers (5 total). Class participation is worth 15% toward the final grade. It is strongly recommended that students attend class regularly.

Participation: Participation points are based on group discussions and presentation of article sections. There are approximately 3 points assigned per week. Students should come prepared to discuss the articles listed in the syllabus.

Research Paper Topic: The paper topic summary (due 3/1) is a one-page (maximum) description of your literature review research paper. This is to be double spaced with at least one empirical article reference (APA format). Your topic is to be submitted on CANVAS, and must be approved by the instructor before you beginning your formal research. More will be said about this in class.

Summary/Response Papers: Thoughtful responses to the reading must be submitted on CANVAS every Friday. Weekly responses should include summaries of the articles and either a critical analysis or responses to a “Thought Question,” as specified in the Schedule of Events. These responses should be concise, no more than 2 pages (of

course typed). Your critical analyses should not only focus on minor imperfections, but highlight how the methodological choices could have critically undermined the plausibility of the conclusions. You could also comment on problems in the interpretation of the data, such as failures to consider alternative explanations or failures to relate the results to other key theoretical issues. Less important but also valid points include those that note whether what is being shown or tested is already known or trivial. Points that will not help in achieving maximum points include subjective/personal statements about how the paper is not interesting (e.g. "I find this uninteresting because it does not touch on X which is what I really care about.") or complaints that the authors did not spend extra resources to go beyond the scope of the experiment (e.g. "I'm disappointed that they did not also try to use fMRI and do these studies on XX patients.").

Discussion Lead: Discussion leads will be largely based on mastery and understanding of the research and its underpinnings. The evaluation rubric is included with this syllabus and can be found on Canvas. The final report and final project will be discussed in class. Sign-ups for this begin on January 27th, and it is your responsibility to do so. The evaluation criteria (maximum 20 points) can be found in the syllabus posted as "190 Assessment Rubrics" under the Modules on CANVAS.

Midterm: The format for the midterm is essay-- a scantron will <u>not</u> be needed. You will be tested on all assigned reading materials.

Final Poster: The 190 final project involves *Self-Directed Neuroplasticity* (SDNP). In several articles and books neuroscientists, most notably Jeffery Schwartz, provide research suggesting that brain structure and function can be altered by ones own volition and attention. The 190 SDNP project involves targeting a single behavior, thought or emotion early in the semester. As students systematically use concepts developed by Schwartz, they then tack changes in the target behavior's occurrence. The specific SDNP steps will be described later in the course, and references will be provided. However, the first step simply involves identifying your target overt or covert behavior; this will be done during the first two weeks of the semester. Students will initially record baseline frequencies, followed by meticulous tracking of the behavior at different time points throughout the semester. The outcome of your personal SDNP project will be presented in poster format at the during the scheduled final exam (5/24). The project will be evaluated on the basis of how well you followed the protocol, collected data, and presented findings, and not on the success or failure of your project. This assignment is worth 45 points, and the evaluation criteria can be found in the syllabus posted as "190 Assessment Rubrics" under the Modules on CANVAS.
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Lecture Presentation (Mini-Con): For this assignment you will make an approximate 15-minute professional oral presentation on the topic of your final report. Although you will be speaking about a topic on which you have done extensive research, you will need to be succinct and clear so that your presentation is delivered in the time allowed. There will be approximately 5 minutes for questions. The exact time allowed for the Mini-Con presentation will be determined on class size, and will be discussed in class

The Mini-Con presentations will begin on April 21, and the evaluation criteria (maximum 50 points) can be found in the syllabus posted as "190 Assessment Rubrics" under the Modules on CANVAS.

Research Report: During the course of the semester you will read, critically evaluate and discuss scientific material. The final written report assignment is designed to provide you with an opportunity to explore a particular topic of interest and to demonstrate what you've learned.

Papers must be at least 7 pages of text (excluding summary, references and cover page) and must be typed (double spaced) and in APA format. The structure for your report is somewhat flexible, but it must include a summary page, a background/rationale, and a description of the methods and findings. You also need to include a critical discussion and a list of your required 7 empirical research references (all in APA, of course!). As discussed in class, you may construct your final report as a 100w paper, so that there are essentially a series of chronologically-ordered article summaries. If this is your approach, you must state the rationale, background information and theoretical propositions in an introductory section. A hard copy of the final research report is due the class meeting, 5/12, and an electronic copy must also be submitted to CANVAS on the 7th. The evaluation criteria (maximum 50 points) can be found in the syllabus posted as "190 Assessment Rubrics" under the Modules on CANVAS.

Grading: Due to the fast-paced nature of this course, there will be no late or make-up assignments or exam. Please check your schedule to ensure that you have no conflicts with the test dates. However, if you have a written medical excuse for missing an exam, a makeup exam will be given within a week of the missed exam, or at the discretion of the instructor.

Library Liaison
The SJSU librarian specializes in social sciences and may serve as a resource for the development of research ideas and for finding the most appropriate research materials.

Psychology Librarian: Bernd Becker
408.808.2348
Bernd.Becker@sjsu.edu
http://libguides.sjsu.edu/psychology

Classroom Protocol

To succeed in this course, attendance is critical. You should come prepared for class discussions with a completion of course readings. Students are responsible for keeping current on changes that may occur on the tentative schedule of events in the syllabus. Students are expected to maintain a level of professional and courteous behavior at all times. I'd like to underscore: this class space is intended to allow for the exploration and discussion of research and ideas. This class is a safe space for all to share ideas.

Cell phones and other electronic devices: You are to turn off cell phones and other electronic devices before the beginning of class. You may use a laptop to take notes during the lecture; however, if you are using your laptop for purposes other than taking notes for Psych 190, you will be asked to leave your laptop at home for the remaining semester.

Communication with instructor

Use email, office hours, or class time. I will respond to emails M-F 9:00 – 5:00. Please allow 1-2 business days for a response, and be certain to be specific about the topic. For example, the subject line should include the course (190) and brief topic (e.g., appointment). Please note, email is not a mechanism to get extensive help with course content or with papers. Please come to my office hours for these and other issues that require more discussion. Also note that lecture notes (or a lecture recap) will not be emailed to students. When a lecture is missed, it is your responsibility to get notes from a classmate.

Canvas and MYSJSU Messaging: Copies of the course materials such as the syllabus, major assignment handouts, etc. may be found on Canvas.

Dropping and Adding: Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester's **Catalog Policies** section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the **current academic calendar** web page located at http://www.sjsu.edu/academic_programs/calendars/academic_calendar/. The **Late Drop Policy** is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.
procedures about add/drops, academic renewal, fee payment, withdrawal
and so forth. These are listed under: http://info.sjsu.edu/home/schedules.html

University Policies

Academic integrity

Academic integrity is essential to the mission of San José State
University. As such, students are expected to perform their own work (except when collaboration is expressly permitted by the course instructor) without the use of any outside resources. Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/"

Student Technology Resources

Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library.

A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include digital and VHS camcorders, VHS and Beta video players, 16 mm, slide, overhead, DVD, CD, and audiotape players, sound systems, wireless microphones, projection screens and monitors.

Learning Assistance Resource Center

The Learning Assistance Resource Center (LARC) is located in Room 600 in the Student Services Center. It is designed to assist students in the development of their full

academic potential and to motivate them to become self-directed learners. The center provides support services, such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. The LARC website is located at http:/www.sjsu.edu/larc/.

Writing Assistance

The SJSU Writing Center is located in Room 126 in Clark Hall. It is staffed by professional instructors and upper-division or graduate-level writing specialists from each of the seven SJSU colleges. The writing specialists have met a rigorous GPA requirement, and they have been well trained to assist all students at all levels within all disciplines to become better writers. The Writing Center website is located at http://www.sjsu.edu/writingcenter/about/staff/.

Research and plagiarism assistance: http://tutorials.sjlibrary.org/tutorial/index.html
Key APA information can be found at: http://www.apastyle.org/

Summary of Events

Midterm I

Date:	Thursday, April 14th
Lectures:	January 27 – April 12th
Readings:	Handouts and select readings from sections throughout the required text.
Outcomes:	Demonstrate a complete understanding of the discussed issues related to: nature and nurture, epigenetics, neuroplasticity and stress-related topics, addiction and placebo.

Final Exam

Date:	Tuesday, May 24th (9:45 AM – 12:00 PM)
Lectures:	
Outcomes:	Understanding of principles underlying plasticity and how it works in an adult brain.

Performance Outcomes and Associated Points

Total Points

Assignment	***Approximate percent***	***Points***
Summary/Response	13%	40 (5 each)
Research Topic	2%	5
Discussion Lead	7%	20
Mini-Con Presentation	16%	50
Contribution to Class Discussion	15%	45
Midterms	15%	45
Paper	16%	50
Final	15%	45
TOTAL		300

Grading Distribution

Grading Scale (300 points)

Total Points	Percentage	Grade
269 – 300	90 – 100	A- to A+
239 – 268	80 – 89	B- to B+
194 – 238	65 – 75	C- to C+
150 – 193	50 – 64	D- to D+
149	less than 50	F

Tentative *Schedule of Events (subject to change with fair notice):*

Week	Date	Reading/Lecture Topic	Daily Events
1	1/27	-Introduction to course and topic -Why this course? -How to Succeed in 190 -Preview of key topics -Introduction to the SDNP Project Ref: Rosensweig, M.R., Bennett, E.L., & Diamond, M.C. (1972). Brain Changes in Response to Experience. *Scientific American, 226 (2), 22-29*	• Begin research for paper topics • Form groups • Lead Discussion Sign-ups • Baseline Happiness Assessment Americans most unhappy: https://abc13.com/archive/9000225/ Written gratitude 3x/day
2	2/1	Bouchard, T. (1983). Do environmental similarities explain the similarity of intelligence of twins reared apart *Intelligence,* 7, 175-184. Review the SDNP Project	Discussion of genes and behavior
	2/3	Retz, W., Freitag, C. M., Retz-Junginger, P., Wenzler, D., Schneider, M., Kissling, C., Thome, J., & Rösler, J. (2008). A functional serotonin transporter promoter gene polymorphism increases ADHD symptoms....pdf Fox, N.A., Hane, A.A & Pine, D.S. (2007). Plasticity for Affective Neurocircuitry: How the Environment Affects Gene Expression. (pp. 130-137.	***Begin sign-ups for report presentations*** Summary and Thought Question #1: Summarize Bouchard's position on the role of genetics. Are the Fox et al. and Retz et al. articles consistent with Bouchard's thinking? How did these concepts influence your ideas about nature and nurture. *Shift the bias and savor the delight!*
3	2/8	Epigenetics Lecture Toyokawa, S. et al., (2012). How does the social environment 'get into the mind'? Epigenetics at the intersection of social and psychiatric Epidemiology. Soc Sci Med. 74(1): 67–74.	Discussion Thinking about research topics and target behaviors. Try gratitude: 3 items written everyday.

	2/10	Murgatroyd, C. et al., (2015). Effects of prenatatal and postnatal depression, and maternal stroking at the glucocorticoid receptor gene. *Translational Psychiatry, 5,* 560– 569. Lutz et al., 2015. Childhood maltreatment and stress-related psychopathology- the epigenetic memory hypothesis.pdf	<u>Summary and Thought Question #2:</u> Nature or nurture? Is there evidence that the environment impact gene expression? Define epigenetics, and consider its potential for understanding neuroplasticity and for treating mental health disorders.Can good parental care reverse some of the deleterious effects of stress?
4	2/15	Stress lecture *Sapolsky, R. M. (2017). Behave*	
	2/17	*Glover, V. (2010). Prenatal stress and the programming of the HPA axis. Neuroscience and Biobehavioral Reviews 35, 17–22* *Lupien S. et al., (2009). Effects of Stress Throughout the Lifespan on the Brain, Behavior and Cognition. Nature Neuroscience Reviews,10, 434-443.*	<u>Summary and Thought Question #3:</u> Define stress. Does stress represent a form of neural plasticity?How does it affect development? According to Lupien (2009), which development stage is particularly vulnerable? Why?
5	2/22	*Lecture/ Discussion: Immunity* *Robles, T.F., Glaser, R. & Kiecolt-Glaser, J.K. (2005). Out of Balance: A New Look at Chronic Stress, Depression and Immunity. (pp. 138-146)* Ader, R. (2001). Psychoneuroimmunology. (pp. 187-193) *Immunology	
	2/24	NO CLASS Independent work: SDNP and literature review	<u>Summary and Thought Questions #4</u>: Based on readings and discussion this week, describe how stress and cognition affect immune function? Also discuss the role of proinflammatory cytokine production in mental health.

6	3/1	N.E. Goeders (2004). Stress, Motivation and Drug Addiction (pp. 160-165)	Research Topic Summary Due
	3/3	Lecture: Role of DA Olsen, C. M. (2011). Natural Rewards, Neuroplasticity	Summary and Thought Questions #5: How might addiction represent neuroplasticity? Based on the assigned readings and class discussions, what would be your ideal treatment for drug addiction? Also discuss how behavioral addictions compare with drug addiction.
7	3/8	T.D. Wagner (2005).The Neural Bases of Placebo Effects in Pain.	
	3/10	*Tentative: Placebo- Role of Pill-Taking... (Leuchter, 2014)*	
8	3/15	Why gratitude? Fox, G. et al. (2015).Neural correlates of gratitude. Frontiers in Psychology 6, 1-11.	Brain Hacks Target of behavioral change
	3/17	Hazlett, L. (2021). Exploring neural mechanisms of the health benefits of gratitude in women: A randomized controlled trial.Brain, Behavior, and Immunity 95, 444–453.	
9	3/22	Begley, S. (2007). The Brain: How the Brain Rewires Itself. Time Magazine. (+DeSocio 2019?) SDNP project	You Are Not Your Brain pgs. 309-345-2-2.pdf SMART operational definition Baseline: Data Collection
	3/24	Habits: TBD Mindfulness:TBD	Behavior(s) defined Baseline: Data Collection
10	3/29	SPRING BREAK: NO CLASS	**Step 1: Relabel Data Collection**
	3/31	SPRING BREAK: NO CLASS	Step 1: Relabel Data Collection
11	4/5	Savor and Flow: TBD	NO CLASS Step 2: Reframe Data Collection
	4/7		NO CLASS

		Focus: TBD	Step 2: Reframe Data Collection
12	4/12	Sleep TBD	Step 2: Reframe Data Collection *Good time for a list!*
	4/14	**MIDTERM**	Step 2: Reframe Data Collection
13	4/19	**Catch up**	**Step 2: Reframe Data Collection**
	4/21	Student Topic	*(15 min each)* **Step 2: Reframe Data Collection**
14	4/26	Student Topic	*(15 min each)* **Step 3: Refocus Data Collection**
	4/28	CONFERENCE: NO CLASS	*(15 min each)* **Step 3: Refocus Data Collection**
15	5/3	Student Topic	*(15 min each)* **Step 3: Refocus Data Collection**
	5/5	Student Topic	*(15 min each)* **Step 3: Refocus Data Collection**
16	5/10	Student Topic	*(15 min each)* *Step 4: Revalue Data Collection*
	5/12	Student Topic	Final Papers Due *(15 min each)* *Step 4: Revalue Data Collection* ***FINAL Happiness Assessment***
	5/24	**FINAL SDNP Report**	**Poster Session** (5-min each)