2021 COURSE SYLLABUS: BIPN 150 (4 units)

Title: Diseases of the Nervous System

From UCSD Course Guide: BIPN 150. Diseases of the Nervous System (4)
Course will be taught from a research perspective, highlighting the biological pathways impacted by different neurological diseases. Each disease covered will be used to illustrate a key molecular/cellular pathway involved in proper neurological function. ***Prerequisites:*** BIBC 102 and BICD 100; BIPN 140 may be taken concurrently.

Classroom locations/dates/times
Section A00 – Lectures Tuesday and Thursdays 8:00a-9:20a – Due to Covid-19, the lectures will be remote (on Zoom), synchronous and recorded.

Discussion Sessions will be given by Instructional Assistants remotely (on Zoom)

DI	A01	Tu	4:00p-4:50p	RCLAS	R138 Annabelle Vinokur
DI	A02	Tu	5:00p-5:50p	RCLAS	R108 Aaron Creswell
DI	A03	W	11:00a-11:50a	RCLAS	R180 Ila Dwivedi
DI	A04	Tu	6:00p-6:50p	RCLAS	R134 Aaron Creswell
DI	A05	W	10:00a-10:50a	RCLAS	R120 Ila Dwivedi

Text books/reading material:
Reading will be assigned from:
1. Neuroscience fifth edition (editors: Purves, Augustine, Fitzpatrick, Hall, LaMantia, McNamara, White)
2. Principles of Neurobiology (Liqun Luo)
3. Scientific American (PDF files available on class web site).
4. Scientific American Mind (PDF files available on class web site).
5. Lancet Journal Review articles (PDF files available on class web site).
6. Primary research articles (PDF files available on class web site).

Grade:

50% Midterm Test

40% of grade is based on multiple choice questions and short answer questions covering lectures from the first half of course.

5% of the midterm exam is based on questions from the papers covered in study sections during the first half of the course.

50% Final Test

40% of grade is based on multiple choice questions and short answer questions covering lectures from the second half of course.

5% of the midterm exam is based on questions from the papers covered in study sections during the second half of the course.

Exams will be closed note and remote (on Canvas)

Grading and Definitions
Do **not** expect to be graded solely in comparison to your classmates (i.e. a curve).

A: Honor grade indicating excellence. Earned as a result of a combination of superior examination scores and ability to deal resourcefully with abstract ideas. This grade reflects highly probable success in a field relating to neurobiology or probable continued success in sequential courses.

B: Honor grade indicating competence. Earned as a result of a combination of high examination scores and commendable mastery of pertinent skills. This grade reflects probable success in a field relating to neurobiology or probable continued success in sequential courses.

C: Standard grade indicating successful performance earned as a result of a combination of satisfactory examination scores, and fair ability to deal with abstract ideas. This grade reflects sufficient evidence of ability to warrant entering sequential courses.

D: Substandard grade indicating the student has met only minimum requirements and is usually associated with low examination scores, a poor ability to grasp abstract ideas, and/or poor class participation.

F: Non-passing grade indicating failure to meet minimum requirements for exams and participation.

Study Sessions:

All students **are assigned to** attend one study session per week. Due to the remote format, the Study (Discussion) Sessions will be recorded. Attendance is encouraged although not required.

Approximately 40 minutes per session will be used for presentation of a research paper/s relevant to the most recent lectures. Students will be called on to describe portions of the papers and discuss the research.

The remaining ~20 minutes will be used to address questions regarding the lecture material and reading.

Course Instructors:

Primary: Yimin Zou (yzou@ucsd.edu, 534-7212)

Secondary: Sam Pfaff (pfaff@salk.edu, 453-4100 x2018)
Martyn Goulding (goulding@salk.edu, 453-4100 x1558)
Kuo-Fen Lee (klee@salk.edu, 453-4100 x1120)

IAs:	Dwivedi, Ila	idwivedi@ucsd.edu
	Creswell, Aaron James	ajcreswe@ucsd.edu
	Vinokur, Annabelle Briena	avinokur@ucsd.edu

Office Hours (on Zoom): Ila Dwivedi 9 am – 10 am Friday
Aaron Creswell 11 am – 12 noon Monday
Annabelle Vinokur 2 pm – 3 pm Wed

General Information:
Reading the assigned material before the class is held will help you follow the lecture.

Attendance at classes AND 1 IA session per week is your best way of ensuring you get a good grade. Every attempt will be made to post reading material and lecture notes on the class website (URL to be provided during class).

If you cannot attend the midterm and final exams it is recommended you drop the course because your grade will likely be affected.

Key dates during winter quarter 2021
Winter Quarter begins Monday, January 4
Instruction begins Monday, January 4
Martin Luther King, Jr. Holiday Monday, January 18
President's Day Holiday Monday, February 15
Instruction ends Friday, March 12
Final Exams Saturday – Saturday, March 13–20
Winter Quarter ends Saturday, March 20

CLASSES IN FIRST HALF COVERED IN MIDTERM

Tuesday Jan 5: (Yimin Zou): Introduction to course – Yimin Zou
Human neuroanatomy – Yimin Zou

Thursday Jan 7: (Sam Pfaff): Part I Amyotrophic Lateral Sclerosis (ALS, Lou Gehrig's disease)

Tuesday Jan 12: (Sam Pfaff): Part II ALS and Spinal Muscular Atrophy (SMA)

Thursday Jan 14: (Sam Pfaff): Rett Syndrome and Autism

Study Sections (from Pfaff)

Tuesday Jan 19: (Sam Pfaff): Lissencephaly ("smooth brain" defects)

Thursday Jan 21: (Sam Pfaff): Prions – Creutzfeldt-Jakob/Kuru; Mad cow

Study Section on (from Pfaff)

Tuesday Jan 26: (Yimin Zou): Pain

Thursday Jan 28: (Yimin Zou): Addiction

Study Section on Addiction (from Zou)

Tuesday Feb 2: (Martyn Goulding): Huntington Disease

Thursday Feb 4: (Martyn Goulding): Fredreich's ataxia

Study Sections (from Goulding)

Tuesday Feb 9: MIDTERM EXAM

Exam covers material from Jan 5 - Feb 4, 2021

CLASSES IN SECOND HALF COVERED IN FINAL

Thursday Feb11: (Yimin Zou): Epilepsy – ion channel-opathy

Tuesday Feb 16: (Yimin Zou): Traumatic brain injury

Thursday Feb 18: (Sam Pfaff): Downs Syndrome and William's Syndrome

Study Section (from Zou)

Tuesday Feb 23: (Kuo-Fen Lee): Alzheimer's Disease

Thursday Feb 25: (Kuo-Fen Lee): Schizophrenia

Study Section (from Lee)

Tuesday March 2: (Kuo-Fen Lee): Anxiety

Thursday March 4: (Kuo-Fen Lee): Spinal cord injury

Study Section (from Lee)

Tuesday March 9: (Martyn Goulding): Myelination Diseases

Thursday March 11: (Martyn Goulding): Leukodystrophies

Study Section – Class Review

THURSDAY MARCH 18: FINAL EXAM (8:00a -10:59a)
Covering material from Feb 11- March 11.