2023 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

(Classes and Study Sections will be all in person)

LE A00 TuTh 8:00a-9:20a TATA 3201

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:

45% 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.

45% 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.

10% IA grade based on study session oral participation.

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:

110117	DI	A01	M	8:00a-8:50a	HSS	1315	Kayla Wang
110118	DI	A02	M	9:00a-9:50a	HSS	1315	Keya Trivedi
110119	DI	A03	Tu	7:00p-7:50p	CENTR	217A	Ananta James Silas
110120	DI	A04	F	3:00p-3:50p	HSS	2154	Keya Trivedi

All students **MUST** attend one study session per week.

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. Participation in the research discussion will be assigned a grade by the TA.

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)

IA**:**

Trivedi, Keya	ktrivedi@ucsd.edu
Silas, Ananta James	ajsilas@ucsd.edu
Wang, Kayla	kaw015@ucsd.edu

Office Hours:

Yimin Zou will give office hours at 2 pm on the Thursdays of the weeks he is giving lectures in person and on Zoom: 1224A Pacific Hall (Zoom link can be found in Canvas)

Keya Trivedi: 4:00 pm – 5:00 pm Thursdays over Zoom
Ananta James Silas: 5:00 pm – 6:00 pm Monday over Zoom
Kayla Wang: 11:00 am – 12:00 pm Friday Over Zoom

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). This information will not necessarily cover everything discussed during class lectures and IA sessions, and therefore is not a substitute for attendance.

If you miss a lecture arrange to get the class notes from another student – this is not the responsibility of the instructors or IA.

If you cannot attend one of the IA sessions and/or the midterm and final exams it is recommended you drop the course because your grade will likely be affected.

If an emergency arises and you cannot take the midterm or final exam, the make up will be an oral examination of the material or a term paper at the discretion of the instructor.

Key dates during winter quarter 2023
Winter Quarter begins Monday, January 4
Instruction begins Monday, January 9
Martin Luther King, Jr. Holiday Monday, January 16
President's Day Holiday Monday, February 20
Instruction ends Friday, March 17
Final Exams Saturday – Saturday, March 18–25
Winter Quarter ends Saturday, March 25

CLASSES IN FIRST HALF COVERED IN MIDTERM

Tuesday Jan 10: (Sam Pfaff): Part I Amyotrophic Lateral Sclerosis (ALS, Lou Gehrig's disease)

Thursday Jan 12: (Yimin Zou): Introduction to course – Yimin Zou
Basics of Neuroanatomy – Yimin Zou

Tuesday Jan 17: (Sam Pfaff): Part II ALS and Spinal Muscular Atrophy (SMA)

Thursday Jan 19: (Sam Pfaff): Rett Syndrome and Autism

Study Sections on Review and Paper Discussion (from Pfaff)

Tuesday Jan 24: (Sam Pfaff) Lissencephaly ("smooth brain" defects)

Thursday Jan 26: (Sam Pfaff) Prions – Creutzfeldt-Jakob/Kuru; Mad cow

Study Section on Review and Paper Discussion (from Pfaff)

Tuesday Jan 31: (Sam Pfaff) Downs Syndrome and William"s Syndrome

Thursday Feb 2: (Yimin Zou): Pain

Study Section on Review and Paper Discussion (from Zou)

Tuesday Feb 7: (Yimin Zou): Addiction

Thursday Feb 9: MIDTERM EXAM

Exam covers material from Jan 10 - Feb 7, 2023

CLASSES IN SECOND HALF COVERED IN FINAL

Tuesday Feb 14: ((Kuo-Fen Lee): Anxiety

Thursday Feb 16: (Kuo-Fen Lee): Spinal cord injury

Study Sections on Review and Paper Discussion (from Lee)

Thursday Feb21: (Kuo-Fen Lee): Alzheimer's Disease

Tuesday Feb 23: (Kuo-Fen Lee): Schizophrenia

Study Section on Review and Paper Discussion (from Lee)

Tuesday Feb 28: (Yimin Zou): Epilepsy

Thursday Mar 2: (Yimin Zou): Traumatic brain injury

Study Section on Review and Paper Discussion (from Zou)

Tuesday March 7: Martyn Goulding): Huntington Disease

Thursday March 9: (Martyn Goulding): Fredreich's ataxia

Study Section on Review and Paper Discussion (from Goulding)

Tuesday March 14: (Martyn Goulding): Myelination Diseases

Thursday March 16: (Martyn Goulding): Leukodystrophies

Study Section – Class Review

THURSDAY MARCH 23: FINAL EXAM (8:00a -10:59a)
Covering material from Feb 14- March 16, 2023.