**2022 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 virtual in the first two weeks of instruction)

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| | LE | A00 | TuTh | 8:00a-9:20a | TATA | 3201 | |
| 69328 | DI | A01 | M | 8:00a-8:50a | CENTR | 203 | Megan Hayes |
| 69329 | DI | A02 | M | 9:00a-9:50a | CENTR | 203 | Megan Hayes |
| 69330 | DI | A03 | M | 1:00p-1:50p | CENTR | 203 | Lauren Valdez |
| 69331 | DI | A04 | M | 2:00p-2:50p | CENTR | 203 | Lauren Valdez |

**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

45% 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

45% 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.

**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:**

Mondays

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**:**

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| Megan Hayes | m1hayes@ucsd.edu |
| Lauren Valdez | lavaldez@ucsd.edu |

Office Hours: Megan Hayes – 10-11 am Thursday
Lauren Valdez – 1-2 pm Thursday

**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 2022**
Winter Quarter begins Monday, January 3
Instruction begins Monday, January 3
Martin Luther King, Jr. Holiday Monday, January 17
President's Day Holiday Monday, February 21
Instruction ends Friday, March 11
Final Exams Saturday – Saturday, March 12–19
Winter Quarter ends Saturday, March 19

## CLASSES IN FIRST HALF COVERED IN MIDTERM

Tuesday Jan 4: (Yimin Zou): Introduction to course – Yimin Zou
Basic of Neuroanatomy – Yimin Zou

Thursday Jan 6: (Sam Pfaff): Part I Amyotrophic Lateral Sclerosis (ALS, Lou Gehrig's disease)

Tuesday Jan 11: (Sam Pfaff): Part II ALS and Spinal Muscular Atrophy (SMA)

Thursday Jan 13: (Sam Pfaff): Rett Syndrome and Autism

**Study Sections on Review Motor Diseases + ALS Research Paper Discussion (from Pfaff)**

Tuesday Jan 18: (Sam Pfaff) Lissencephaly ("smooth brain" defects)

Thursday Jan 20: (Sam Pfaff) Prions – Creutzfeldt-Jakob/Kuru; Mad cow

**Study Section on Review Rett, Liss. Prion + Rett Research Paper Discussion (from Pfaff)**

Tuesday Jan 25: (Yimin Zou): Pain

Thursday Jan 27: (Yimin Zou): Addiction

**Study Section on Addiction (from Zou)**

Tuesday Feb 1: (Martyn Goulding): Huntington Disease

Thursday Feb 3: (Martyn Goulding): Fredreich's ataxia

**Study Sections on neurodegenerative disease caused by coding and non-coding triplet repeats (from Goulding)**

**Tuesday Feb 8: MIDTERM EXAM**

**Exam covers material from Jan 4 - Feb 3, 2020**

**CLASSES IN SECOND HALF COVERED IN FINAL**

Thursday Feb10: (Yimin Zou): Epilepsy

Tuesday Feb 15: (Yimin Zou): Traumatic brain injury

Thursday Feb 17: (Sam Pfaff) Downs Syndrome and William"s Syndrome

**Study Section on Epilepsy (from Zou)**

Tuesday Feb 22: (Kuo-Fen Lee): Alzheimer's Disease

Thursday Feb 24: (Kuo-Fen Lee): Schizophrenia

**Study Section on ? (from Lee)**

Tuesday March 1: (Kuo-Fen Lee): Anxiety

Thursday March 3: (Kuo-Fen Lee): Spinal cord injury

**Study Section on ? (from Lee)**

Tuesday March 8: (Martyn Goulding): Myelination Diseases

Thursday March 10: (Martyn Goulding): Leukodystrophies

**Study Section – Class Review**

**THURSDAY MARCH 17: FINAL EXAM (8:00a -10:59a)**
**Covering material from Feb 10- March 10.**