Syllabus – General Physiology II (Bio 116)
Spring 2020

Instructor: Mimi Kao
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  email: mimi.kao@tufts.edu

Office Hours: Friday: 2:00-3:30pm 200 Boston Ave, Room 4762
  and by appointment (email is usually better)

Meeting Time: Mon. & Wed. 1:30-2:45pm in Pearson Hall, Room 106


Additional: Additional reading will be available on the course site on Canvas.

Grading:
  3 exams (each exam is worth 80 points; 80% of grade)
    Exams will not be cumulative (although mastery of basic concepts will be assumed). Test information will come mostly from class, but information in the text related to class presentations is fair game.
    All exams will occur during class periods.
  
  Journal club (45 points; 15% of grade)
    We will read and discuss a few research papers this term. Everyone will be expected to read each paper, contribute to class discussion, and complete a written assignment. In addition, small groups of students will be in charge of providing background material and leading the discussion.

  Participation and Roeder Lecture (15 points; 5% of grade)
    Attendance and written assignment.

Course homepage – https://canvas.tufts.edu/courses/16783

Please make sure that you log onto this site regularly for updates, additional readings, and general communication.

Date       Topic                                                                                     Readings
           14th ed: 1-15; 95-113; 317-322
Jan. 22    General principles of endocrinology; techniques for studying endocrinology                    Norris:23-39
Jan. 27    Hormone classes, receptors, regulation                                                       pp.320-331
           14th ed: 317-330
Jan. 29  Hypothalamic-Pituitary System I  pp. 333-339  
14th ed: 331-337
Feb. 03  Hypothalamic-Pituitary System II – Growth Hormone  pp.348-352  
14th ed: 346-350
Feb 05  Thyroid Hormones  pp. 339-343  
Norris: 80-85  
14th ed: 337-341
Feb. 10  Posterior pituitary; Catch up and Review  pp. 503-6, 509-510, 513-15  
14th ed: 498-501; 504-505; 509-510

Feb. 12  1st exam
Feb. 17  President’s Day – No Classes
Feb. 19  Nervous system – Introduction & organization; resting membrane potential  pp. 136-149  
14th ed: 136-149
Feb. 20  Tufts Monday  Nervous system – ion channels; graded potentials, Action potential  pp. 149-157  
14th ed: 149-157
Feb. 24  Cable properties, synaptic transmission  pp. 158-165  
14th ed: 158-164
Feb. 26  Sensory physiology – Introduction to sensory systems; Audition – Sound and the Ear  pp. 189-198; 216-221  
14th ed: 189-198; 215-220
Mar. 02  Auditory system – Frequency tuning & pitch perception  Purves: 285-300
Mar. 04  Auditory system – Loudness
Mar. 09  Auditory system – Sound localization  Purves: 300-307
Mar. 11  Journal Club – Experience-dependent auditory processing
Mar. 16  Spring Break
Mar. 18  Spring Break
Mar. 23  Catch up/Review; Visual system - eye  pp. 205-211  
14th ed: 204-210
Mar. 25  2nd exam
Mar. 30  Visual system – Intro, retina  pp. 205-216  
14th ed: 204-215
Apr. 01  Visual system – retina, thalamus  Add’l reading
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Apr. 06</td>
<td>Visual system – V1</td>
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<tr>
<td>Apr. 08</td>
<td>Visual system – V1, journal club</td>
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<tr>
<td>Apr. 13</td>
<td>Gastrointestinal physiology</td>
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<td>Apr. 15</td>
<td>Gastrointestinal physiology</td>
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<tr>
<td>Apr. 17</td>
<td>Kenneth Roeder Memorial Lecture – 4:00pm</td>
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<td>Professor Malcolm McIver, Northwestern University</td>
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<td>Apr. 20</td>
<td>Patriot’s Day – No classes</td>
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<tr>
<td>Apr. 22</td>
<td>Gastrointestinal physiology; Catch up and review</td>
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<td>Apr. 27</td>
<td>3rd Exam</td>
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Journal club:
During journal club, we will discuss primary research papers that will build on material previously discussed in lecture. Everyone in the class is expected to read the assigned paper(s) and to be ready to discuss them. Groups will be assigned to provide background information or to present the data in the paper. Journal club will be a chance to discuss the hypothesis, data analysis, interpretation of the data, limitations and future directions.