

Instructor: Wei Guo – Lynch 304E; 8-9384; guowei@sas.upenn.edu
Class meets Tuesdays and Thursdays, 10:15-11:45am in Leidy Lab 109

Course description

This course is designed for graduate students and advanced undergraduates with a particular enthusiasm for cell biology. This class does not attempt to cover all aspects of cell biology, and is therefore not appropriate for students seeking a lecture course that provides a comprehensive survey of the field. Rather, the primary objective of this course is to teach those students considering a career in the biomedical sciences how to read, discuss, and question research papers effectively. There is no assigned textbook; students learn to critically evaluate current and classic literature by reading original papers on selected topics in modern cell biology. Intensive classroom discussions focus on the experimental methods used, results obtained, interpretation of these results in the context of cell structure and function, and implications for further studies. Guest lecturers are sometimes invited to discuss their research. Students will have the opportunity to lead discussions.

Exams and grading

The two in-class exams will each contribute 35% of your final grade. Classroom discussion will contribute 30% of the final grade.

Topics and schedule

Please note that this schedule is subject to changes, depending on the progression of classroom discussions, student interests, etc.

<i>Jan 13</i> Cellular structure: an overview	<i>8</i> Spring break
<i>18</i> Study proteins in living cells	<i>10</i> Spring break
<i>20</i> Membrane fractionation & reconstitution	<i>15</i> Cell migration
<i>25</i> Membrane fusion	<i>17</i> EMT
<i>27</i> Genetic study of membrane trafficking	<i>22</i> ECM
<i>Feb 1</i> Rab GTPase	<i>24</i> Extracellular vesicles (I)
<i>3</i> Exocyst	<i>29</i> Extracellular vesicles (II)
<i>8</i> Membrane curvature	<i>31</i> Extracellular vesicles (III)
<i>10</i> Phospholipids	<i>April 5</i> Extracellular vesicles (IV)
<i>15</i> Endolysosomes	<i>7</i> Cancer (I)
<i>17</i> Autophagy	<i>12</i> Cancer (II)
<i>22</i> Cytoskeleton (1)	<i>14</i> Cancer (III)
<i>24</i> Cytoskeleton (II)	<i>19</i> Cancer (IV)
<i>Mar 1</i> Cytoskeleton (III)	<i>21</i> Cancer (V)
<i>3</i> Exam I	<i>26</i> Exam II