Topics in Biology: Animal Genetic Model Organisms
Biol 5005-004, Audb 201. Tues/Thurs 9:30-10:50

Dr. Padilla, Professor, Life Science Building B Room 220
Communication via the Blackboard email message system or your email
Dr. Padilla’s Office Hours: Friday 9:00-10:30

Blackboard Learn: Course information for class will be posted on blackboard.

Grades: Grades based on participation, writing assignments, scientific paper reviews, presentations. 10 points for each assignment

Objective: Progress as a scientist through review of the scientific literature, and discussing scientific finding, and communicating scientific ideas

Guiding principle for the course: Intentional conversations about a select few research papers to learn and progress in the development of the following skills sets:

The minimally expected skills:
• Understand and learn scientific content in the field of C. elegans genetics
• How to read and comprehend scientific papers
• Increase awareness of various scientific approaches
• Develop clarity on the objective and significance for specific scientific studies
• Awareness of the history of a scientific field

The practical skills:
• An understanding of the scientific publication process
• Develop an in-depth understanding of scientific manuscript organizational process
• Dissect and develop the writing style and technical know-how required for scientific publication
• Understanding of needed resource and resource acquisition

The essential but difficult to master skills:
• Develop critical thinking skills
• Develop listening skills
• Allow purposeful curiosity
• Recognize and develop scientific creativity
• Practice and master scientific communication (written and oral form)
• Develop skills in participatory science
• Refute and respond to critiques
• Awareness of the limitations of a scientific field

Disabilities: If you have a qualifying disability as defined by the ODA and need special accommodations, you must provide me with the paperwork by January 28.
“The function of education is to teach one to think intensively and to think critically. Intelligence plus character that is the goal of true education’ Martin Luther King, Jr.

**Tentative Class Schedule:** Schedule subject to change and will be updated online

<table>
<thead>
<tr>
<th>Tues.</th>
<th>Class Topic</th>
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<tr>
<td>Jan 16</td>
<td>Organization &amp; guiding principles for class discussions</td>
<td>Jan 18</td>
<td>Skill Set Development Reading &amp; Reviewing Papers What is creativity?</td>
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<td>Jan 23</td>
<td>\textit{C. elegans} as a model &amp; Sydney Brenner (1, 2) Scientific History, Reading Reviews</td>
<td>Jan 25</td>
<td>Classic: Worm brain J. White, M. Chalfie Classic Scientists &amp; Discoveries (3-5)</td>
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<td>Jan 30</td>
<td>Classic: Worm brain J. White, M. Chalfie Content &amp; Communication (4, 5)</td>
<td>Feb 1</td>
<td>Chemosensation C. Bargmann Notable Scientist &amp; Discoveries (6, 7)</td>
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<td>Feb 6</td>
<td>Oxygen Sensing (8) C. Bargmann Content &amp; Communication</td>
<td>Feb 8</td>
<td>No Class- Padilla at UTEP</td>
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<td>Feb 13</td>
<td>Aging (9, 10) Kenyon, Ruvkun Notable Scientists &amp; Discoveries</td>
<td>Feb 15</td>
<td>Aging &amp; Stress (11) Kenyon Content &amp; Communication Style</td>
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<td>Feb 20</td>
<td>Neuropeptides &amp; Longevity (12, 13) Content &amp; Commentary Style</td>
<td>Feb 22</td>
<td>No Class-Padilla at SACNAS meeting</td>
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<td>Feb 27</td>
<td>Cell Death Introduction (14, 15) Notable Scientist &amp; Discoveries R. Horvitz</td>
<td>Mar 1</td>
<td>Apoptosis &amp; Phagocytosis (16) Content &amp; Communication Style</td>
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<td>March 6</td>
<td>No class- Padilla at Leadership Conference</td>
<td>Mar 8</td>
<td>Skill Set Development Journal Instructions to Authors Writing Scientific Papers</td>
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<td>March 13</td>
<td>Spring Break</td>
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<td>Spring Break</td>
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<td>March 20</td>
<td>MicrorRNAs (17, 18) V. Ambros</td>
<td>March 22</td>
<td>Germline &amp; Development (19-21) G. Seydoux &amp; S. Strome</td>
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<td>March 27</td>
<td>Insulin-like signaling, stress, gene expression (22)</td>
<td>March 29</td>
<td>Glycogen, lifespan &amp; stress (23)</td>
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<td>April 3</td>
<td>Glucose Toxicity (24, 25) \textcolor{red}{Writing Project Due}</td>
<td>April 5</td>
<td>Writing Project Discussions Student 1</td>
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<td>April 10</td>
<td>Writing Project Discussions Student 2</td>
<td>April 12</td>
<td>Writing Project Discussions Student 3</td>
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<td>April 17</td>
<td>Writing Project Discussions Student 4</td>
<td>April 19</td>
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<td>April 24</td>
<td>Writing Project Discussions Student 6</td>
<td>April 26</td>
<td>No class- Padilla at OLLI talk</td>
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<td>May 1</td>
<td>Writing Project Discussions Student 7</td>
<td>May 3</td>
<td>Writing Project Discussions Student 8</td>
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<td>May 8th</td>
<td>Final exam week</td>
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Scientific Paper References: References include commentaries, primary papers, reviews, classic papers and more recent publications.


Refer to wormbook, worm atlas, and wormbase for additional information needed.