Experimental Cancer Biology

Biology, 5929
Tuesdays & Thursdays 10:15-12:15pm
Fall 2020

Contact Information
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Course Description and Course Goals
The topics will be presented in a basic scientific nature with an emphasis on gaining a broad understanding of the subjects. The goal of this class is to provide students with the most fundamental aspects of cancer biology from both a research and clinical perspective. Emphasis will be placed on critical and creative thinking about experimental cancer biology. The course is broken down into four major themes:

- Tumor initiation
- DNA damage
- Metastasis
- Tumor environment

Texts, Materials, and Supplies

- Research papers will be provided by each instructor

Grading

Grades for this course will be determined through two presentations and course participation.

Final Grade Breakdown:

- Presentation 1: 40% of final grade
- Presentation 1: 40% of final grade
- Class Participation: 20% of final grade

Assignments

Presentations: There are two oral presentations that will allow you to demonstrate your proficiency of critical and creative thinking about research papers and the experiments contained within them. The
format will be a 40-50 minute oral PowerPoint presentation of the research paper being discussed for each topic.

Class Participation: Every student will be expected to actively participate in the class discussion revolving around each research paper. Students should critically read and evaluate each research paper the week before the presentation.

**Attendance, Participation, and Classroom Climate**

- This class will be a combination of asynchronous and synchronous presentations. Your attendance during synchronous Zoom lectures is required. These lectures will be recorded for later viewing, but discussion during these synchronous lectures is quite important.

- Discussion and participation are a major emphasis in this course. This means that it is your responsibility to come to class ready and willing to take part in group knowledge building. This participation is graded and it will assist the entire class in gaining a larger understanding of the topics in cancer biology.

- Classroom interactions will remain civil, respectful, and supportive.

**Course Schedule**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Lecturer</th>
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<tbody>
<tr>
<td>9/15</td>
<td>Tumor viruses and the discovery of oncogenes</td>
<td>Weber</td>
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<tr>
<td>9/17</td>
<td>Uncovering tumor suppressors</td>
<td>Weber</td>
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<tr>
<td>9/22</td>
<td>Signaling networks</td>
<td>Weber</td>
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<tr>
<td>9/24</td>
<td>Epigenetics and transcription</td>
<td>Weber</td>
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<tr>
<td>9/29</td>
<td>Translation machinery</td>
<td>Weber</td>
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<tr>
<td>10/1</td>
<td>Balance of cell cycle and apoptosis</td>
<td>Weber</td>
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<td>10/6</td>
<td>Protein degradation and autophagy pathways</td>
<td>Weihl</td>
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<tr>
<td>10/8</td>
<td>Tumor metabolism</td>
<td>Patti</td>
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<tr>
<td>10/13</td>
<td>Overview of DNA damage</td>
<td>Mosammaparast</td>
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<td>10/15</td>
<td>HR &amp; NHEJ and ties to tumor suppression</td>
<td>Mosammaparast</td>
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<td>10/20</td>
<td>SSB repair pathways</td>
<td>Mosammaparast</td>
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<tr>
<td>10/22</td>
<td>Replication</td>
<td>Vindigni</td>
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<td>Date</td>
<td>Topic</td>
<td>Instructor</td>
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<tr>
<td>10/27</td>
<td>Replication fork protection pathways</td>
<td>Vindigni</td>
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<tr>
<td>10/29</td>
<td>Mutagenic signatures in cancer</td>
<td>Green</td>
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<td>11/3</td>
<td>Chemotherapeutics and radiation</td>
<td>Mosammaparast</td>
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<td>11/5</td>
<td>Metastasis cycle</td>
<td>Longmore</td>
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<td>11/10</td>
<td>Tumor dormancy</td>
<td>Stewart</td>
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<td>11/12</td>
<td>Tumor invasion-tumor cell intrinsic regulation</td>
<td>Longmore</td>
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<tr>
<td>11/17</td>
<td>Tumor invasion-environmental regulation</td>
<td>Longmore</td>
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<tr>
<td>11/19</td>
<td>Fibroblasts and mesenchymal accessory cells</td>
<td>Stewart</td>
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<tr>
<td>11/24</td>
<td>Angiogenesis</td>
<td>Longmore</td>
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<tr>
<td>12/1</td>
<td>Immune recognition and immune surveillance</td>
<td>DeNardo</td>
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<tr>
<td>12/3</td>
<td>Immune promotion</td>
<td>DeNardo</td>
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<tr>
<td>12/8</td>
<td>Integration of TME responses as regulators of cancer</td>
<td>DeNardo</td>
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**Resources for Students**

**Disability Resources**  
Washington At Washington University we strive to make the academic experience accessible and inclusive. If you anticipate or experience barriers based on disability, please contact Disability Resources at 314.935.5970, disabilityresources@wustl.edu, or visit our website for information about requesting academic accommodations. See: https://students.wustl.edu/disability-resources/

**The Writing Center**  
The Writing Center, located in Olin Library, offers free one-on-one writing tutorials to WashU students, as well as workshops designed to help students become better writers. The Writing Center staff can assist by providing feedback on the strength of an argument, clarity, and organization. Contact them at 935-4981 or writing@wustl.edu.

**Engineering Communications Center**  
The Engineering Communications Center offers students in the McKelvey School of Engineering one-on-one help with oral presentations, writing assignments, and other communications projects. They are located in Urbauer Hall, Rm. 104.

**The Learning Center**  
The Learning Center works collaboratively with University partners to provide undergraduate students key resources, like academic peer mentoring, to enhance their academic progress. Contact them at learningcenter.wustl.edu to find out what support they may offer for your classes.
Mental Health Services
Mental Health Services’ professional staff members work with students to resolve personal and interpersonal difficulties, many of which can affect the academic experience. These include conflicts with or worry about friends and family, concerns about eating or drinking patterns, and feelings of anxiety and depression. For more information, visit: www.students.wustl.edu/mental-health-services/

Relationship and Sexual Violence Prevention Center (RSVP)
The Relationship and Sexual Violence Prevention Center (RSVP) offers support for those who have experienced sexual violence, sexual misconduct, dating violence, domestic violence or stalking. RSVP can help those who are not sure what steps they wish to take to respond to their experiences. They offer confidential support and can help arrange for necessary classroom accommodations. To get help, contact the RSVP Center at 935-3445 or rsvpcenter@wustl.edu. Their office is located in Seigle Hall, Suite 435.

Bias Report and Support System (BRSS)
The University has a process through which students, faculty, staff, and community members who have experienced or witnessed incidents of bias, prejudice, or discrimination against a student can report their experiences to the University’s Bias Report and Support System (BRSS) team. To report an instance of bias, visit www.brss.wustl.edu.

Center for Diversity and Inclusion (CDI)
The Center for Diversity and Inclusion (CDI) supports and advocates for undergraduate, graduate, and professional school students from underrepresented and/or marginalized populations, collaborates with campus and community partners, and promotes dialogue and social change to cultivate and foster a supportive campus climate for students of all backgrounds, cultures and identities. See: https://diversityinclusion.wustl.edu/

University-Wide Policies
Statement on Military Service Leave
Washington University recognizes that students serving in the U.S. Armed Forces and their family members may encounter situations where military service forces them to withdraw from a course of study, sometimes with little notice. Students may contact the Office of Military and Veteran Services at (314) 935-2609 or veterans@wustl.edu and their academic dean for guidance and assistance. See: https://veterans.wustl.edu/policies/policy-for-military-students/.

Preferred Names and Gender Inclusive Pronouns
In order to affirm each person’s gender identity and lived experiences, it is important that we ask and check in with others about pronouns. This simple effort can make a profound difference in a person’s experience of safety, respect, and support. See: https://students.wustl.edu/gender-pronouns-information/, https://registrar.wustl.edu/student-records/ssn-name-changes/preferred-name/

Reporting Sexual Assault
If a student discusses or discloses an instance of sexual assault, sexual discrimination, sexual harassment, dating violence, domestic violence or stalking, or if a faculty member otherwise observes or becomes aware of such an allegation, they will keep the information as private as possible, but as a faculty member of Washington University, they are required to immediately report it to the Department Chair or Dean or directly to Ms. Jessica
Kennedy, the University’s Title IX Director, at (314) 935-3118, jwkennedy@wustl.edu. Additionally, you can report incidents or complaints to the Office of Student Conduct and Community Standards or by contacting WUPD at (314) 935-5555. Students who wish to speak with a confidential resource may wish to reach out to the Relationship and Sexual Violence Prevention Center (RSVP) at 935-8761 or by visiting the 4th floor of Seigle Hall.

Accommodations for Sexual Assault
The University is committed to offering reasonable academic accommodations (e.g., no contact order, course changes) to students who are victims of relationship or sexual violence, regardless of whether they seek criminal or disciplinary action. If you need to request such accommodations, please contact the Relationship and Sexual Violence Prevention Center (RSVP) at rsvpcenter@wustl.edu or (314) 935-3445 to schedule an appointment with an RSVP confidential, licensed counselor. Information shared with counselors is confidential. However, requests for accommodations will be coordinated with the appropriate University administrators and faculty.

Emergency Preparedness
Before an emergency, familiarize yourself with the building(s) that you frequent. Know the layout, including exit locations, stairwells and the Emergency Assembly Point (EAP). Review the “Quick Guide for Emergencies” that is found near the door in many classrooms for specific emergency information and instructions. For additional information and EAP maps, visit emergency.wustl.edu. To ensure that you receive emergency notifications, make sure your information and cell phone number is updated in SIS, and/or download. The WUSTL app and enable notifications.

To report an emergency:
Danforth Campus: (314) 935-5555
School of Medicine Campus: (314) 362-4357
North/West/South and Off Campus: 911 then (314) 935-5555