

MEDG521 & PATH531

Course objective:

This class features local cancer researchers who review the present status of their research field. In each class, the guest faculty lecturer gives a talk describing their selected cancer research topic. Guest faculty assign two recent publications related to the topic, which are then presented by students. Through lectures, presentations and discussions, students learn current principles of tumorigenesis, the application of basic biology principles to cancer research, the current status of cancer research fields, and modern cancer research techniques and strategies. The students learn how to evaluate, present, critique and discuss cancer research studies, how to design cancer research projects, and how to write cancer research grant proposals. The goal is to help students start down the path to becoming independent cancer researchers and promote the development of skills for self-education in cancer and graduate research.

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Format:

13 guest lectures by local cancer scientists. The faculty lecture on their area on cancer research. The faculty picks 2 papers for students to present and lead discussions on the meaning and interpretation of the papers.

Location:

- BC Cancer Research Centre Lecture Theatre

Day and Time:

- Wed, 1pm – 4pm

Instructors:

- Dr. Katey Enfield, Ph.D.  
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- Dr. Yemin Wang, Ph.D.  
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Teaching Assistant:

- Jana Jajarmi  
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Class Format:

- Agenda:
  1. 5 minutes – class introduction and business
  2. 45 minutes – PI presentation
  3. 20 minutes – discussion
  4. 5 minutes – break
  5. 30 minutes – student presentation I
  6. 15 minutes – discussion
  7. 30 minutes – student presentation II

8. 15 minutes – discussion
9. 5 minutes – class business (170 min)

Class Communication:

- General announcements by email and/or Connect website
  1. **Please put MEDG521 or PATH531, and the topic in the subject line**
- Specific brief issues: student/instructor email
- Urgent issues for presenting students: email instructors
- Science issues: please set up meeting time with guest PI or instructors. Instructors will not provide long detailed email replies on science topics.

Instructor meetings:

- If students need clarification on the papers before presentation, they are urged to set up a meeting directly with the guest PI at least a week before the class. If the PI is not available, the instructors or TA can be contacted for this purpose.

Office Hours:

- Contact to set up time to discuss in-person or on zoom.

Student Information:

- Send TA the following information
  1. **Name**
  2. **Preferred email address**
  3. **PI lab**
  4. **Graduate program**
  5. **Research project – brief scientific abstract**
  6. **Any known conflicts with specific class dates (and justification)**
  7. **This information will be used to match students with guest PIs and presentation dates**

Reading:

- Presentation papers – 1 or 2 per week
- Review articles – 1 or 2 per week
  1. Received 1 or 2 weeks in advance as PDF files, via email or the Connect class website
- Book – Weinberg; The Biology of Cancer (Optional)
  1. Primarily for general background, specific background will be the review articles
  2. A good resource all cancer researchers

Grading:

- Paper presentation 35%
- FINAL - Grant proposal 50% **(DUE DATE: 22 APRIL 2026)**
- Participation 15%

Paper Presentation:

- Assigned by mentor PI
  1. received 1 or 2 weeks in advance

## 2. IF NECESSARY, can meet with PI or instructors to discuss paper – schedule by email.

- Length: 30 minutes and 5 minutes discussion, 35 minutes total
- Presentation should include the following components:
  1. objective
  2. background – sufficient to understand experiment/topic
  3. relevance to cancer
  4. hypothesis, if any
  5. research plan/strategy
  6. major results
  7. conclusions
  8. critique(s)
  9. alternative methodology/strategy
  10. questions/issues raised
  11. future research direction
- Format:
  1. MS PowerPoint file, or .pdf file
  2. **provide on USB key only (laptop connections are not compatible with the AV system)**
  3. Presentation scripts such as text written in **presenter mode will not be allowed**
  4. Avoid fonts such as Aptos that are not compatible with AV system (use older fonts such as Arial, Calibri, etc.)
  5. You will not be permitted to bring notes, tablets, phones, etc. up to your presentation.
- Grading: by instructors and visiting PI
  1. 30 points total
  2. 0-2 points for each of the 11 presentation components described above
    - 0=inadequate
    - 1=adequate/sufficient
    - 2=excellent
  3. 0-3 points overall qualify/clarity
  4. 0-5 points questions/discussion
  5. grade returned 2 weeks post presentation

### Participation:

- 10% questions and contributions to discussion (by TA/instructor)
- 5% presentation feedback
  1. based on presentation evaluation forms; 1% subtracted for each missed

### Final:

- Grant proposal – 2-year term – similar to a Cancer Research Society Operating Grant (no preliminary data required)
- Due Date: **22 APRIL 2026**
- Topic – **approved by instructor (please submit your topic for approval by March 20)**
  1. potential topics
    - follow up on paper presentation
    - related to personal research project, but **not directly**
    - general cancer biology
- Sections:

1. cover page: project title, name, running title
  2. scientific abstract – 1 page
  3. lay abstract – 1/2 page
  4. research – 5 pages, **includes figures**
  5. references
  6. environment and budget – 1 page
- Format:
    1. MS Word document, emailed to instructor
    2. single space, 1 inch margins, normal line spacing
    3. 12 pt Times New Roman or 11 pt Arial
    4. header – name, running title, section title, page number
  - Scientific abstract: 1 page
    1. objective
    2. background/relevance
    3. rationale/hypothesis
    4. specific aims
    5. impact/significance
  - Lay abstract: 1/2 page

Summarize the proposal, in **simple, easy-to-understand, every day, non-technical language**, including a brief description of why the proposed line of research is important, the rationale, research objectives, how it relates to the current state of the art and, what impact it will make on cancer research and/or the burden of cancer.
  - Research section: 5 pages, **includes figures**
    1. background
    2. objective
    3. rationale
    4. hypothesis
    5. specific aims
    6. detailed research methods
      - pitfalls/alternative strategies
    7. future research direction
    8. significance/impact
    9. timeline/personnel
  - References:

Standard format, include title and all (within reason) authors
  - Environment and budget: 1 page

List and brief description of key equipment and facilities needed to accomplish specific aims. Budget overview with justification (\$140,000 total budget over 2 years).