# Syllabus 2020 Advanced Topics in Applied Biology (APBI 490) 3 credits

## Time and place

We are conducting the class on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people whose culture includes a distinctive understanding of animals that has been passed from one generation to the next on the site now used by UBC.

The class will meet on Wednesdays at 13:00-16:00, Pacific time. Because the course is highly discussion-based, all sessions will be synchronous. Regular participation at the established time is essential for success.

## Learning objectives

1. To develop awareness of how research methods in animal welfare science have evolved, including new methods that have been introduced during the past decade.

2. To develop skills in investigating and evaluating research methodology through critical reading of scientific literature and by synthesizing material into an informative summary.

3. To develop skill and experience in expository writing and oral communication by (1) writing several brief, summary articles, (2) writing one in-depth term paper, and (3) presenting and leading a discussion on the topic of the term paper.

## Learning activities

This is an advanced, fourth-year seminar course for students who have a strong interest in research and animal welfare, and who have completed APBI 315. Building on the awareness of research methods developed in that course, this more advanced course will immerse students in the primary research literature in animal welfare science. The key activities in the course are (1) finding and critically evaluating research methods, and (2) communicating the findings through essays (several short and one in-depth), discussions and a presentation.

The class is conducted as a weekly 3-hour discussion-based meeting where students participate actively in, and occasionally lead, discussion. To prepare for each session, students will review a chapter of *Understanding Animal Welfare* or other reading that introduces a research method (preference testing, stress responses, etc.) or other topic. The first hour will involve background from the instructor on how the early research methods developed and the controversies that arose over them. For the second hour, each student chooses an animal group (e.g., lab animals, farm animals, companion animals, fish, etc.) and finds one or more research articles that apply the method or topic to the chosen category of animals. In the final hour, each student de-briefs the rest of the class on the article they have found. After the class everyone posts their findings to Canvas, and students then use the posted research to write a short essay of 1200-1500 words. These essays are submitted the next week for comments.

Students also write a term paper on a research method of their choosing, and give a presentation to the class based on the term paper.

## Learning materials

• For each class, the relevant chapter of *Understanding Animal Welfare* will be made available.

• The main learning materials are the research done by each student (1) for the weekly essays and posts on Canvas, and (2) for the term paper.

• Comments and feedback by the instructor are a key element of the learning materials.

• Students will use their own computer or other device for the research activity in the second hour.

## Instructors

David Fraser (he, him, his), Room 183 MacMillan, [dfraser@mail.ubc.ca](mailto:dfraser@mail.ubc.ca)

Laura Whalin (she, her, hers), Room 190 MacMillan, lwhalin@mail.ubc.ca

Rather than creating restrictive office hours, the instructors are happy to meet with students whenever it is mutually convenient.

## Course structure and schedule

*Initial weeks*. In the first weeks, we will focus on the different research methods used in the study of animal welfare. In each week we will explore a different topic to be drawn from:

1. Abnormal behaviour of animals

2. Stress physiology

3. Pain and other negative affective states

4. Positive affective states

5. Animals’ preferences

6. Animal motivation

7. Natural behaviour of animals

8. How evidence of animal health and productivity informs animal welfare

*Final weeks*. For the final 3-4 sessions, we will focus on skills in oral presentation and leading discussion. Students will use the skills they have developed by writing a term paper, giving an oral presentation of 12-15 minutes, and leading a discussion based on the presentation.

## Evaluation

Evaluation (to be finalized by the class) will include written work, participation and presentations to assess the degree of achievement of the learning objectives. One option is as follows:

1. Four short essays x 10 marks each 40

2. Term paper (5 for topic and outline; 30 for finished essay) 35

3. Oral presentation and leading discussion 10

4. Participation in class (assessed by instructor) 5

5. Contributions to research (marked by students and instructors) 10

100

*Essays*

For the short essays, we will cover a different topic each week. This means roughly writing one short essay per week. At the end of each short essay, students should show the word count for the text, excluding any tables and references.

*Term papers*

Term papers are expected to be 15 to 19 double-spaced pages (excluding references) in 12 font. An outline and starting reference list (10 or more sources) is due by mid-term and the final paper is due at the last class. Sample topics for term papers include:

- assessing stress in shelter dogs

- recognizing pain in laboratory animals

- using basic health to improve free-range systems

- assessing the motivation of hens to nest and dust-bathe

- understanding abnormal behaviour in stabled horses

- genetic causes of welfare problems in dogs

- effects of handling on animal welfare

- recent advances in zoo animal welfare

*Evaluation criteria*

(1) Research: thoroughness, use of authoritative sources, and use of multiple sources.

(2) Analysis and synthesis: thoughtful synthesis of different types of information and (especially for the term paper) critical evaluation of material.

(3) Presentation: structure of the essay, technical quality of the writing (sentence structure, paragraph structure, clarity), and quality of the reference list.

## University Policies

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are availableon[**the UBC Senate website**](https://senate.ubc.ca/policies-resources-support-student-success)**.**

## Proposed marking rubrics

### Short essay marking

*Information: thoroughness of research, adequacy of sources*

10 – exceeds 9

9 – very rich in accurate information, correctly understood and concisely expressed so that many interesting points are made in a short essay

8 – rich in accurate information expressed concisely enough to give good coverage of the subject in a short essay

7 – enough information to give readers a reasonable sense of the topic

6 – a bit thin on information, possibly because the writing is wordy or gets a bit bogged down in details

5 – minimal coverage of the subject, possibly because the writing is wordy or gets bogged down in less important details

0-4 – below 5

*Analysis/synthesis: comprehension, originality, critical thinking – goes beyond reporting*

10 – very original ideas, interpretation or critical analysis, plus flawless comprehension

9 – high level of originality and critical thinking, combined with flawless comprehension

8 – solid comprehension and description with some insightful original analysis, interpretation or synthesis of ideas

7 – reasonable comprehension but mostly reports rather than analyzes, synthesizes or interprets

5-6 – acceptable (6) or barely acceptable (5) level of comprehension

0-4 – significant misunderstanding

*Presentation: logical structure, solid paragraph structure, clear and grammatical sentences, carefully prepared references*

10 – exceeds expectations for excellent undergraduate writing

9 – excellent essay in terms of structure, writing style and reference list

8 – very good quality, perhaps with minor flaws of grammar, spelling, paragraph structure, or inconsistency in referencing, but that do not affect clarity and readability

7 – reasonable quality of presentation with some flaws of grammar, spelling, paragraph structure, or inconsistency in referencing, that have some effect on clarity or readability

5-6 – presentation needs substantial improvement in areas such as structure, writing, grammar, at the level that clarity or readability is significantly affected (6) or seriously affected (5)

0-4 – Below an acceptable standard of writing

### Term paper marking

*Research: thoroughness of research, adequacy of sources*

10 – exceeds quality expected for undergrad essay

9 – very thorough research of appropriate sources including primary scientific/scholarly literature where available

8 – thorough research of appropriate sources

7 – adequate research of appropriate sources

6 – not well researched or reliance on weak sources

5 – barely acceptable amount of research

0-4 – below minimal expectation

*Analysis/synthesis: comprehension, originality, critical thinking*

10 – very original ideas, interpretation or critical analysis, plus flawless comprehension

9 – high level of originality and critical thinking, combined with flawless comprehension

8 – solid comprehension and description with some insightful original analysis, interpretation or synthesis of ideas

7 – reasonable comprehension but mostly reports rather than analyzes, synthesizes or interprets

5-6 – acceptable level of comprehension

0-4 – serious misunderstanding

*Presentation: logical structure, solid paragraph structure, clear and grammatical sentences, carefully prepared references*

10 – impeccable essay

9 – excellent essay in terms of structure, writing style and reference list

8 – very good quality, perhaps with some flaws of grammar, spelling, paragraph structure, or inconsistency in referencing, but that do not affect clarity and readability

7 – reasonable quality of presentation with some flaws of grammar, spelling, paragraph structure, or inconsistency in referencing, that have some effect on clarity or readability

5-6 – presentation needs substantial improvement in areas such as structure, writing, grammar, at the level that clarity or readability is seriously affected (6) or barely acceptable (5)

0-4 – Below an acceptable level of presentation

### Marking contributions to research

The mark for the term will be based on student and instructor assessment of each person’s contributions to the research as posted on Canvas.

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| --- | --- |
| 10 | Consistent, on-time postings that are excellent, accurate and well summarized with impeccable references |
| 8 | Solid contributions that meet the needs of other students for good information, well summarized and with good references |
| 6 | Useful but sometimes late, rambling, inaccurate or poorly referenced |
| 4 | Below the basic standard one would expect for a 4th-year course because postings were sometimes missing, poorly researched, poorly summarized, or poorly referenced |
| 0-2 | Far below the basic standard one would expect for a 4th-year course because postings were typically missing, poorly researched, poorly summarized, or poorly referenced |

### Marking presentations

Presenter \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Topic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Marker\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- | --- | --- |
| **Criteria** | **1** (Poor) | **3** (Good/Solid) | **5** (Excellent) | **Score** |
| **Interest & Effectiveness** | Dull, dull, dull | Held audience attention | Thoroughly engaging |  |
| **Organization** | * Poorly organized; many points were not clear * Too long or short OR stopped by instructor | * Generally well organized, most points clearly expressed * Appropriate length | * Excellent organization: clear introduction, objectives and conclusions * Clear, logical flow * Appropriate length |  |
| **Quality of Information** | * Points vague or irrelevant * Little information * Questionable sources * Poor ability to answer questions | * Points mostly clear * Mostly credible sources * Adequate knowledge; most questions clearly answered | * Thoroughly researched from strong sources * Thorough/thought-provoking discussion * Questions answered thoughtfully and well |  |
| **Visual appeal / Ease of viewing information** | * Visuals not helpful * Too much text OR text difficult to understand | * Visual mostly relevant & helpful * Text generally effective * Pictures fairly clear | * Visuals effective and reinforced points * Text easy to read, not too much, easily read |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **0-10**  Below expectations for 4th year | **11-13**  Fair | **14-15**  Good | **16-17**  Very Good | **18-20**  Excellent |

Score: \_\_\_\_\_\_\_

Notes: