The Animal-Based Scientist will:

1. submit the completed *Pedagogical Merit Review Request Form* (APP1-Non-Expedited or APP3-Expedited) to the PMR Committee via its online repository.

The Pedagogical Merit Review Committee Chair will:

2. identify one to two reviewers and forward the animal-based scientist's *Pedagogical Merit Review Request Form* (APP1-Non-Expedited/APP3-Expedited) and blank *Pedagogical Merit Reviewer Form* (APP2-Non-Expedited/APP4-Expedited) to reviewers requesting form completion and submission within two weeks' time.

For Non-expedited Reviews, if only one reviewer is identified by the Pedagogical Merit Review Committee Chair, the Department / Research Institute will:

3. identify one further reviewer and forward the animal-based scientist's *Pedagogical Merit Review Request Form* (APP1-Non-Expedited/APP3-Expedited) and blank *Pedagogical Merit Reviewer Form* (APP2-Non-Expedited/APP4-Expedited) to the reviewer requesting form completion and submission within two weeks' time.

The Pedagogical Merit Reviewer(s) will:

4. within two weeks of *Pedagogical Merit Review Request Form* (APP1-Non-Expedited/APP3-Expedited) receipt, perform the review using the *Pedagogical Merit Reviewer Form* (APP2-Non-Expedited/APP4-Expedited), and
5. submit the review(s) to the Pedagogical Merit Review Committee Chair.

The Pedagogical Merit Review Committee Chair will:

6. assess reviewer feedback,
7. provide the PI with written pedagogical merit reviewer feedback while ensuring reviewer anonymity,
8. if outstanding questions / concerns have been identified by a reviewer, act as liaison between the PI and merit reviewer(s), and append related communications, as appropriate, to the *Pedagogical Merit Reviewer Form*,
9. notify the ACC the merit reviewers' decision using the AUP online system, to include the completed *Pedagogical Merit Review Request* and *Reviewer Forms*.

The Animal-Based Scientist will:

10. attach the PMR Review Request and Reviewer forms, including the approval letter, to their AUP and submit to the ACC via the online software system.

Revision History

Version	Date *dd-mm-yyyy*	Description of Changes	Author
00	07-12-2018	New procedure	LT
01	08-08-2019	Reallocate responsibilities for administering merit reviews to the Pedagogical Merit Review Committee, add Roles & Responsibilities section; update terms and titles	LT/LC/EB
02	10-11-2020	Reformat; Update Appendices	LT/TW/NC

| 03 | 13-05-2021 | Replace APPs 2&4 with CCAC's version | LT |
| 04 | 11-07-2024 | Refine wording; clarify form type in title and instructions | LT / LC |

This **Pedagogical Merit Review (PMR) Request Form** is intended for use by animal-based scientists involved in teaching or training that is NOT prescribed or mandated by a third party, e.g., undergraduate training, to provide pedagogical merit reviewers with details associated with your proposed project or program to determine if the live animal model proposed by the instructor is **essential** in support of the intended learning outcomes.

Please forward the completed form to the PMR Committee via its online repository with sufficient time (minimum three weeks prior to AUP submission) to permit the external review, which will be facilitated by the Pedagogical Merit Review Committee Chair. (**Note:** AUP approval **cannot** be granted until the project is found to have pedagogical merit, as per the Policy POL-014).

1. **AUP Holder Name –**

2. **Organization/Department Affiliation(s) –**

3. **Animal Use Protocol** associated with this project/program, as available –

4. **Course/Program Name & Number –**

5. **Program Context** - Disclose early, any information that will assist reviewers in understanding the context of the learning activity, e.g., importance of procedures, specialized location, animal model, etc. –

6. **Intended Learning Objectives** – List the learning objectives[1] in a bulleted format to clearly specify the learning intentions for learners; Note: Begin each learning objective with an action word.

#	Learning Objective
1	
2	
3	
4	
5	
6	

7. **Assessment Methods** – *'Criteria, tests, and tools that assess learning outcomes'*

   a. Explain how learners will be evaluated on knowledge and/or skill acquisition involving animals, e.g. essays, quizzes, reports, task performance, etc.; and

b. Associate the evaluation methods with the learning objectives to demonstrate how evaluation methods will ensure that the learning objectives have been met.

Learning Objective # from above	Assessment Methods Used

8. **Learning Activities** – *'How will the learning objectives be achieved'*

   a. Ensure each learning activity is clearly described, if possible, associate activities back to the 'Learning Objectives' section to illustrate the linkage.

   b. Add an Introductory Phrase - Precede the list of learning objectives for each learning activity with the phrase: "By the end of this learning module/training event, participants will:"

Learning Objective # from above	Learning Activities

9. Animal/learner ratio and instructor/learner ratio –

10. **Learner Feedback** – If applicable, provide specific feedback from learner assessments and/or course evaluations regarding the benefit of animal-based teaching/training –

11. **Three Rs Replacement Alternatives** - Outline efforts made to identify Teaching/Training Replacement Alternatives (defined below) as per CCAC, including resources consulted.

    a. Associate your learning objectives with each alternative presented; reference the associated number(s) listed under the 'Learning Objectives' section.

    b. Address specific efforts made to seek out alternatives with reference to the Canadian Council on Animal Care's Three Rs cornerstone of ethics[2] and FAQs-Pedagogical Merit of Live Animal-based Teaching[3], and then

    c. Explain why the replacement alternatives may not adequately achieve the specific learning objectives

Learning Objective # from above	Efforts made to seek alternatives	Why alternatives may not adequately achieve the learning objective

12. Provide the rationale for the use of live animals as the **best** and **essential** model in support of learning outcomes.

This **Pedagogical Merit Reviewer Form** is intended for **Pedagogical Merit Reviewers** who have agreed to review a proposed teaching or training project/program as requested by the Pedagogical Merit Review Committee Chair, in accordance with the *Pedagogical Merit Review Policy* (POL-014).

Note: Use this form for teaching/training that is **not** prescribed or mandated by a third party, e.g., Undergraduate course.

To assist you in the review process, please reference Canadian Council on Animal Care's "Frequently Asked Questions – pedagogical merit of live animal-based teaching and training"- Pedagogical Merit Review flow chart (Page 12)[1].

Once completed, please forward within two weeks of receipt to the Pedagogical Merit Review Committee Chair via the PMR Committee's online repository.

PMR Reviewer Information

1. Pedagogical Merit Reviewer Name –
2. Pedagogical Merit Reviewer Email –
3. Review Date –
4. I confirm that I meet CCAC's requirement for 'independence' from and 'expertise' relating to the project outlined below, as defined within the Pedagogical Merit Policy (POL-014)   Yes

AUP Information

5. AUP Holder's Name –
6. Animal Use Protocol Number, if provided –
7. Course/Program Name & Number –

Teaching Training Program Assessment[2]

8. *Learning Outcomes* – Are the learning outcomes:

    a. Specific – Are they clearly described, and do they specify the involvement of animals?   Yes   No

        If No, explain:

    b. Measurable – Do they specify how well the learned behaviour must be performed (accuracy, speed, quality)?   Yes   No

        If No, explain:

        i. Attainable and Realistic – Are they realistically achievable, given the composition, learning level, and needs of the student group(s), and the teaching

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[1] Canadian Council on Animal Care (CCAC). FAQs- 03MAY2024 Retrieved from https://www.ccac.ca/Documents/Standards/Policies/FAQ-Pedagogical_merit_of_live_animal-based_teaching.pdf
[2] CCAC. "Pedagogical Merit Review Form" 03MAY2024 Retrieved from
https://www.ccac.ca/Documents/Standards/Policies/Pedagogical_merit_of_live_animal-based_teaching.pdf

activities (what, where) proposed? ☐ Yes ☐ No
If No, explain: [ ]

ii. Are the animal/student ratio and instructor/student ratio appropriate to achieve the learning outcomes? ☐ Yes ☐ No
If No, explain: [ ]

c. Timely –

i. Is the timing of the inclusion of the animals in the teaching/training suitable for the projected timing of the intended learning outcome(s)? ☐ Yes ☐ No
If No, explain: [ ]

ci. Are there clear benefits to involving animals in this course, at this point in time in the academic curriculum, to future study or career paths? ☐ Yes ☐ No
If No, explain: [ ]

cii. Does this course serve as a prerequisite for further study? ☐ Yes ☐ No
If No, explain: [ ]

9. *Learning Assessment Methods –*
a. Are live animals involved in the assessment? ☐ Yes ☐ No
If No, explain: [ ]

b. Are the learning assessment methods clear and relevant? ☐ Yes ☐ No
If No, explain: [ ]

10. *Learning Activities –* Are the learning activities clear and relevant? ☐ Yes ☐ No
If No, explain: [ ]

11. Do learning outcomes strongly and logically align with learning assessment methods, and do both align with learning activities in support of the outcomes? ☐ Yes ☐ No
If No, explain: [ ]

12. Has the instructor made reasonable and appropriate efforts to identify replacement alternatives? ☐ Yes ☐ No

If No, explain: [_____]

13. Based on SMART learning outcomes, constructive curriculum alignment, and the necessity for these students to achieve stated learning outcomes at this point in their learning experience, is the live animal proposed in this course/program the best model in support of learning outcomes, or could equivalent absolute or relative replacement alternatives be used?

    a. ☐ I agree that the use of live animals within the proposed teaching/training project/program is essential to achieve the learning outcomes, OR

    b. ☐ I believe that Teaching/Training Alternatives, as outlined below, would be more appropriate (please provide options):

       i. Absolute Alternatives – [_____]

      ii. Relative Alternatives – [_____]

14. Other Reviewer Comments - [_____]

This **Expedited Pedagogical Merit Review Request Form** is intended for use by animal-based scientists involved in teaching or training whose competency-based teaching or training activities where the intended learning outcomes are prescribed or mandated by a third party.

In order to provide the pedagogical merit reviewer will assess if there are equivalent absolute or relative replacement alternatives.

For more details, see PROC-014, APP5 – Tips for completing the Pedagogical Merit Review Form.

Please forward the completed form to the Animal Care Committee via ACC@uwo.ca with sufficient time (minimum three weeks prior to AUP submission) to permit the external review, which will be facilitated by the Pedagogical Merit Review Committee Chair.

Note: AUP approval cannot be granted until the project is found to have pedagogical merit, as per the Policy POL-014).

1. **AUP Holder / Instructor Name –**
2. **Organization/Department Affiliation(s) –**
3. **Animal Use Protocol associated with this project/program, as available –**
4. **Course/Program Name & Number –**
5. **Name of prescribing organization mandating skills –**

6. **Program Context** - Disclose early, any information that will assist reviewers in understanding the context of the learning activity, e.g., importance of procedures, specialized location, animal model –

7. **Intended Learning Objectives –** List the learning objectives[1] in a numbered format to clearly specify the learning intentions for student/learner. Note: Begin each learning objective with an action word.

#	Learning Objective
1	
2	
3	
4	
5	
6	

☐ See attachment for more details

8. **Learning Activities** – *'How will the learning objectives be achieved'*

   a. Ensure each learning activity is clearly described, if possible, associate activities back to the 'Learning Objectives' section to illustrate the linkage.

   b. Add an Introductory Phrase - Precede the list of learning objectives for each learning activity with the phrase: "By the end of this learning module/training event, participants will:"

Learning Objective #	Learning Activities

☐ See attachment

9. **3Rs Replacement Alternatives** - Associate your learning objectives with each alternative presented; reference the associated number(s) listed under the 'Learning Objectives' section.

   a. Address specific efforts made to seek out alternatives with reference to the Canadian Council on Animal Care's Three Rs cornerstone of ethics[2] and FAQs-Pedagogical Merit of Live Animal-based Teaching[3]; and then

   b. Explain why the replacement alternatives may not adequately achieve the specific learning objectives

Learning Objective #	Efforts made to seek alternatives	Why alternatives may not adequately achieve the learning objective

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[2] CCAC. Policy Statement: Ethics of Animal Investigation (1989). Retrieved 03MAY2024 from
https://ccac.ca/Documents/Standards/Policies/Ethics_of_animal_investigation.pdf
[3] CCAC. FAQ-Pedagogical Merit of Live Animal-based Teaching. (2020). Retrieved 03MAY2024 from
https://ccac.ca/Documents/Standards/Policies/FAQ-Pedagogical_merit_of_live_animal-based_teaching.pdf

This **Expedited Pedagogical Merit Reviewer Form** is intended for **Pedagogical Merit Reviewers** who have agreed to assess competency-based teaching or training activities where the intended learning outcomes are prescribed or mandated by a third party (e.g., CCAC-mandated institutional animal user training, ministry of education, an institutional researcher / personnel training program or an accreditation or certification body), and as requested by the Pedagogical Merit Review Committee Chair, in accordance with the *Pedagogical Merit Review Policy* (POL-014).

To assist you in the review process, please reference Canadian Council on Animal Care's "Frequently Asked Questions – pedagogical merit of live animal-based teaching and training"- Pedagogical Merit Review flow chart (Page 12)[1].

Once completed, please forward **within two weeks of receipt** to the Pedagogical Merit Review Committee Chair.

PMR Reviewer Information

1. Pedagogical Merit Reviewer Name –
2. Pedagogical Merit Reviewer Email –
3. Review Date –
4. I confirm that I meet CCAC's requirement for 'independence' from and 'expertise' relating to the project outlined below, as defined within the Pedagogical Merit Policy (POL-014) ☐ Yes

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AUP / Course Information

5. AUP Holder Name –
6. Animal Use Protocol Number, if provided –
7. Course/Program Name & Number –

Teaching Training Learning Activities Assessment[2]

8. *Learning Activities* – Are the learning activities clear and relevant? ☐ Yes ☐ No
   If No, explain:
9. *Replacement Alternatives* – Has the instructor made reasonable and appropriate efforts to identify replacement alternatives? ☐ Yes ☐ No
   If No, explain:

   a. Which resources were consulted?

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[1] Canadian Council on Animal Care (CCAC). FAQ-Pedagogical Merit of Live Animal-based Teaching (2020). Retrieved 03MAY2024 from https://www.ccac.ca/Documents/Standards/Policies/FAQ-Pedagogical_merit_of_live_animal-based_teaching.pdf
[2] CCAC. FAQ-Pedagogical Merit of Live Animal-based Teaching (2020), P. 2. Retrieved 03MAY2024 from https://www.ccac.ca/Documents/Standards/Policies/Pedagogical_merit_of_live_animal-based_teaching.pdf

10. *Best Learning Model and Replacement Alternatives* – Based on the availability and suitability of equivalent absolute or relative replacement alternatives is the live animal proposed in this course the best model in support of learning outcomes? ☐ Yes ☐ No

    a. Explain choice:

    b. If a replacement alternative would be more appropriate, provide options below:

        i. *Absolute* (e.g., computer simulation, model):

        ii. *Relative* (e.g., tissue, eggs, invertebrate):

11. *Conclusion* – With regard to meeting prescribed learning outcomes, the proposed live animal model is:

    a. ☐ Essential (has pedagogical merit), OR

    b. ☐ Not Essential (Does not have pedagogical merit)

    c. Other Reviewer Comments -

This document provides tips for completing the **Pedagogical Merit Review (PMR) Form**, as outlined within the *Pedagogical Merit Review Policy* (POL-014) and *Procedures* (PROC-014) **-** includes 'Full' (App1) and 'Expedited' (App3).

For more support, please contact the PMR Committee Chair.

1. **How Pedagogical Merit is Assessed?**

   o Reviewers offer input from the perspective of applying the Three Rs (Reduce, Refine and Replace) to a teaching/training program based upon their extensive pedagogical consultation experience.

   o Reviewers are asked to determine if the specific live animal-based learning objectives **are both clear and essential for the trainees** based on the application. Reviewer understanding is derived from the pedagogic application only and is pedagogic feedback and critique is based upon:

      ▪ People Involved:

         • the composition of the learning group and the instructor(s),

         • current level of experience,

         • technical needs,

      ▪ Basic Requirements:

         • Timeline of proposed activities in relation to achieve objective driven competence in skills and procedures described.

         • Exploration of equivalent absolute (no animal use) or relative (replacing more sentient animals with those having significantly lower pain potential, e.g. invertebrates) replacement alternatives exist.

            o If this is not possible, justification of the proposed training needs to be clearly linked to the learning objectives and explicitly described in non-jargoned lay terms where possible

2. **Review Process** - Pedagogical Merit Reviews are designed to be collaborative.

   o The review team always approaches pedagogic review with the goal for better training environments of the facility, laboratory, or class in question in combination with animal pain and suffering reduction avenues.

3. **Reviewer Comprehension Is Key.**

   o **Use Clear Language** – Ensure language used to list activities and their objectives is understandable by someone external to your scientific discipline and/or inexperienced with animal-based science.

   o **Define Acronyms** - Define all acronyms in advance of their use in the form.

- o **Be Specific** – Use precise language throughout the form, e.g., disclose specific conditions (timeframes) or expectations of performance/outcome when listing the learning objectives and assessment methods to be used.

- o **Provide Context** – Disclose early, any information that will assist reviewers in understanding the context of the learning activity, e.g., importance of procedures, specialized location, animal model.

- o **Use Clear Filenames for Attachments** – Ensure attachments are clearly named for ease of identification by the reviewer, e.g., add the words 'learning activities' to associated filenames.

4. **Learning Objectives/Activities/Assessment Methods Alignment** – The learning objectives, learning activities and assessment methods used must align with one another.

5. **Learning Objectives/Outcomes** – *'What will be achieved by each learning activity?'*

    - o **Use Bulleted (Numbered) Lists** - List the objectives in a bulleted format in order to clearly specify what you wish the learner/trainee to learn, these are Learning Objective(s).

        - ▪ **Objectives = Action** – Begin each learning objective with an action word, e.g., recognize, identify, compare and contrast, synthesize, apply, mitigate risk of, demonstrate competence in, quantify, practice, perform, quantify, administer, restrain, compare.

        - ▪ For a great resource to learning objectives see: https://teaching.uwo.ca/curriculum/coursedesign/learning-outcomes.html

6. **Assessment Method** – '*Criteria, tests, and tools that assess learning outcomes'*

    - o Explain how trainees will be evaluated on knowledge and/or skill acquisition involving animals, e.g. essays, quizzes, reports, task performance.

    - o Associate the evaluation methods with the learning objectives to demonstrate how evaluation methods will ensure that the learning objectives have been met.

7. **Learning Activities –** *'How will the learning objectives be achieved'*

    - o Ensure each learning activity is clearly described, if possible, associate activities back to the 'Learning Objectives' section to illustrate the linkage.

        - ▪ **Add an Introductory Phrase** - Precede the list of learning objectives for each learning activity with the phrase: "By the end of this learning module/training event, participants will:"

8. **Teaching/Training Replacement Alternatives**

    - o Restate and/or link your learning objectives for each alternative presented; reference the associated number(s) listed under the 'Learning Objectives' section.

- o Address specific efforts made to seek out alternatives with reference to the Canadian Council on Animal Care's [Three Rs and Ethics](#) and [FAQs-Pedagogical Merit of Live Animal-based Teaching](#); and then

- o Explain why the replacement alternatives may not adequately achieve the specific learning objectives