

WESTERN UNIVERSITY
LONDON CANADA

Department of Psychology
Fall - Winter 2026

Psychology 4860E, 4861E, 4862E Section 001

Honours Thesis: Meta-Analysis
Honours Thesis (Science): Meta-Analysis
Honours Thesis (Developmental Cognitive Neuroscience): Meta-Analysis

1 Calendar Description

All honours psychology students registered in the 4th year of the Honours Specialization programs in Psychology, Animal Behaviour, or Developmental Cognitive Neuroscience (DCN), who have been approved for the Meta-Analysis option for their Honours Thesis are required to take Psychology 4860E Honours Thesis: Meta-Analysis, OR Psychology 4861E Honours Thesis (Science): Meta-Analysis, OR Psychology 4862E Honours Thesis (Developmental Cognitive Neuroscience): Meta-Analysis. Please note that although these are listed as separate courses they are completely merged together for all meta-analysis honours thesis classes and related activities, assignments, and meetings.

Psychology 4860E Section 001 Honours Thesis: Meta-Analysis

Independent meta-analysis developed and conducted under the direction of a faculty member in a group learning environment.

Antirequisite(s): [Psychology 4850E](#), [Psychology 4851E](#), [Psychology 4852E](#), [Psychology 4861E](#), [Psychology 4862E](#), the former Psychology 4853E.

Prerequisite(s): A minimum grade of 75% in [Psychology 3801F/G](#) or [Psychology 3800F/G](#) and one of [Psychology 3184F/G](#), [Psychology 3185F/G](#), [Psychology 3285F/G](#), [Psychology 3480F/G](#), [Psychology 3485F/G](#), [Psychology 3580F/G](#), [Psychology 3780F/G](#), or [Psychology 3840F/G](#), PLUS registration in fourth year Main Campus Honours Specialization in Psychology and permission of the Psychology Department. Students in fourth year Honours Specialization in Animal Behaviour may also enrol in this course.

3 seminar hours. 1.0 course

Psychology 4861E Section 001 Honours Thesis (Science): Meta-Analysis

Independent meta-analysis developed and conducted under the direction of a faculty member in a group learning environment. Topics focus on fundamental psychological processes, their underlying neural mechanisms, their development within individuals, and their evolutionary and ecological contexts.

Antirequisite(s): [Psychology 4850E](#), [Psychology 4851E](#), [Psychology 4852E](#), [Psychology 4860E](#), [Psychology 4862E](#), the former Psychology 4853E.

Prerequisite(s): A minimum grade of 75% in [Psychology 3801F/G](#) or [Psychology 3800F/G](#) and one of [Psychology 3184F/G](#), [Psychology 3185F/G](#), [Psychology 3285F/G](#), [Psychology 3480F/G](#), or [Psychology 3485F/G](#), PLUS registration in fourth year Main Campus Honours Specialization in Psychology B.Sc. and permission of the Psychology Department. Students in fourth year Honours Specialization in Animal Behaviour also may enrol in this course. 3 seminar hours. 1.0 course

Psychology 4862E Section 001 Honours Thesis (Developmental Cognitive Neuroscience): Meta-Analysis

Independent meta-analysis developed and conducted under the direction of a faculty member on a topic that is both theoretically and methodologically relevant to developmental cognitive neuroscience (DCN). This course is exclusively for students in the DCN Module.

Antirequisite(s): [Psychology 4850E](#), [Psychology 4851E](#), [Psychology 4852E](#), [Psychology 4860E](#), [Psychology 4861E](#), the former Psychology 4853E.

Prerequisite(s): A minimum grade of 75% in [Psychology 3801F/G](#) or [Psychology 3800F/G](#) and [Psychology 3485F/G](#), PLUS registration in fourth year Honours Specialization in Developmental Cognitive Neuroscience B.Sc. and permission of the Psychology Department. 3 seminar hours. 1.0 course

Unless otherwise stated, students are responsible for ensuring that they have successfully completed all prerequisites prior to enrolling. Where prerequisites have not been met, the instructor may require the student to withdraw from the course. In accordance with Western policy, this decision is not subject to appeal.

In the event of a discrepancy between this outline and Senate or University policies, the latter shall prevail. The instructor reserves the right to modify elements of this course outline for pedagogical or operational reasons. Any such changes will be communicated to students in a timely manner.

2 Course Information

Instructor:	Dr. Paul Tremblay
Office & Phone:	SSC 6336 519-661-2111 Ext. 85644
Office Hours:	E-mail Dr. Tremblay to set appointment
Email:	ptrembla@uwo.ca

Time and Location of Classes: Fridays 9:30-12:00, location TBD, in person

3 Course Materials

No textbook required. Recommendations for best optional resources:

Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. (2022). *Introduction to meta-analysis (Second edition.)*. John Wiley & Sons, Inc. (earlier edition available online at Weldon library)

Cooper, H. (2017). *Research synthesis and meta-analysis. A step-by-step approach. Fifth edition*. Los Angeles: Sage. (available online at Weldon library)

Harrer, M., Cuijpers, P., Furukawa, T. A., & Ebert, D. D. (2021). *Doing Meta-Analysis with R: A Hands-On Guide*. Chapman and Hall/CRC. (available online at Weldon library)

Weekly lecture slides will provide links to relevant resources. Some important sites that we will use are the following:

Campbell Collaboration Effect Size Calculator. <https://www.campbellcollaboration.org/research-resources/effect-size-calculator.html>

PRISMA website reporting guidelines, checklists and flow diagrams. <https://www.prisma-statement.org/>

Western Libraries (various guides and Covidence):

<https://guides.lib.uwo.ca/knowledgesynthesis>

<https://guides.lib.uwo.ca/knowledgesynthesis/covidence>

(all retrieved 2026-06-10)

4 Course Objectives and Learning Outcomes

The overall course objective is to produce a psychology honours thesis research project and present your work in a class presentation, as a poster at an organized presentation day with all thesis students and faculty members (March 19) and as a complete written thesis document. The meta-analysis project requires the retrieval of empirical studies on a topic, collection of effect size statistics from those studies into a data file, and analysis of these study effect sizes. You will have the opportunity to select a topic of interest to you in consultation with the instructor, who will consider the feasibility of the project prior to granting approval.

The overall course is structured into a series of weekly step-by-step building blocks to help guide the students through the complete thesis project. Each class will be divided into a lecture presenting foundational knowledge and a lab session dedicated to group discussions and writing exercises addressing a specific part of the overall project (e.g., how to develop a set of keywords and phrases for the literature search). Students will also be expected to meet on a monthly basis to discuss progress with the instructor.

Learning Outcome	Learning Activity	Assessment
<i>Depth and Breadth of Knowledge</i> • Articulate the current state of knowledge, key concepts and main research themes and issues in the major content domain(s) relevant to the individual meta-analysis thesis research project • Improved understanding of research methods, statistical analysis, measurement, and the cumulative nature of science	• Researching, reading and evaluating the empirical literature • Regular group discussions, comparing content topics and research problems • Regular consultations with instructor	• Systematic review of a topic implies a comprehensive literature review on a particular topic. • Written reports on separate components of the project • Complete thesis document • Class presentation of individual project • Poster presentation with all honours thesis students
<i>Knowledge of Methodologies</i> • Access, interpret and critically evaluate research resources relevant to the project • Formulate research hypotheses and/or questions to address the main topic • Understand the sequence of steps to conduct high quality meta-analyses	• Researching, reading and evaluating the empirical literature • Writing an initial research proposal • Writing the methods section of their project	• <i>Written reports (Proposal, Introduction, Methods, Results section and interpretation of analyses, Discussion, Full thesis document)</i> • <i>Class presentation</i> • <i>Poster presentation</i>
<i>Application of Knowledge</i> • Apply data collection methods consisting of systematic searches, extracting information, and evaluating quality of studies • Apply relevant statistical techniques to extract relevant quantitative information, conduct analyses, report and interpret findings • Engage in scholarly discussion on topics relevant to honours thesis project	• Regular group discussions, comparing content topics, methods and analytic strategies • Conducting all stages of research for the meta-analysis project • Writing draft reports of different sections of the overall thesis document	• <i>Written reports (Proposal, Introduction, Methods, Results section and interpretation of analyses, Discussion, Full thesis document)</i> • <i>Class presentation</i> • <i>Poster presentation</i> • <i>Class participation</i>
<i>Communication Skills</i> • Communicate in writing accurately, clearly and logically, using the discourse of psychology • Communicate orally accurately, clearly and logically, using the discourse of psychology	• Class writing exercises for all sections of the thesis • Feedback provided on introduction, methods, results and interpretation prior to submission of full	• <i>Written reports (Proposal, Introduction, Methods, Results section and interpretation of analyses, Discussion, Full thesis document)</i>

Learning Outcome	Learning Activity	Assessment
Develop psychology conference presentation skills (i.e., present a research project live (in-person) in front of an audience and respond orally to audience questions)	thesis document - Feedback on class presentation and poster - Consultation with instructor or TA	<i>Class presentation</i> <i>Poster presentation</i> <i>Class participation</i>
<i>Awareness of Limits of Knowledge</i> - Recognize the limits of knowledge at all stages of the research process - Understand the limitations of the strengths and limitations of the methods in research design, measurement, and analysis	- In class discussions of these limitations - Inclusion of limitation sections where appropriate in different sections of the thesis	<i>Written reports (Proposal, Introduction, Methods, Results section and interpretation of analyses, Discussion, Full thesis document)</i> <i>Class presentation</i> <i>Poster presentation</i> <i>Class participation</i>
<i>Autonomy and Professional Capacity</i> - Demonstrate an appropriate level of effort, attention to detail as required in meta-analysis work and professionalism in communication with colleagues, instructor and TA - Show initiative and autonomy in executing each phase of the thesis project	- Completing assignment on time - Engagement in lectures and group discussion - Regular monthly meetings with course instructor	Class participation

5 Evaluation

1. Preliminary Proposal [Oct 2] [5%]. A two-page summary (double spaced plus references) of the proposed project consisting of an introduction of the topic, why the topic is important, gap in the literature, research questions, and a preliminary and general assessment of the breadth of the empirical literature.
2. Full Proposal [Oct 30] [10%]. A more extensive proposal using the PRISMA-P Protocol template that goes into more depth about the methods, proposed search strategy, management of the study records, the data items that will be collected, methods for assessing risk of bias, and analytic procedure.
3. Search Report [Nov 13] [5%]. A two-page report including (1) a list of the databases and other sources used in your study searches, (2) a list of the keyword searches, (3) a description of the inclusion and exclusion criteria, and (4) access to your downloaded study information (e.g., access to your Covidence project).
4. Preliminary Coding Data File [Nov 27] [5%]. You will be creating your own tailored data file with the necessary information from each study to conduct the meta-analysis. This is a simple spreadsheet (e.g., Excel or a statistical package) with studies in rows and the

descriptive variables in columns. For this assignment, you will be required to submit your data file with at least five coded studies.

5. Introduction [Dec 4] [10%]. The introduction should be at least 8 to 10 double spaced pages (plus references) written in APA style 7th edition. The introduction will build on the first assignment and provide a more comprehensive literature review focusing on the research questions.
6. Method Section and Completed Coding Data File [Jan 22] [10%]. This report will provide the Method section describing your literature search procedure with PRISMA steps, the coding procedure, and the analytic procedure. It is expected that the method section will be approximately 4 to 5 double spaced pages plus the PRISMA figure. Please include a link to your completed coding data file.
7. Results Part 1. Figures and Tables [Feb 12] [5%]. This first part of the results will include a Table listing all the studies that will be used in your meta-analysis. The figures will include the updated PRISMA flow diagram and the Forest plot(s) from your analyses.
8. Results Part 2. Written Interpretation of Results [Feb 26] [5%]. This section will include any additional necessary tables and figures assessing bias. This part will also include the written section interpreting the results, with an expected length of about 4 to 6 pages of text.
9. Class presentation [Mar 5] [10%]. Individual 10-min max presentations will be scheduled in the two classes before Poster Day and will serve as practice and preparation for that day event. Students can present preliminary sections of their poster using 12 to 15 slides max.
10. Poster [Mar 19, date to be confirmed] [10%]. Presentation of thesis research in a poster form on Poster Day with other sections of the Honours Thesis course. Precise details regarding poster preparations will be given in class. Posters will be graded by the supervisor and a second reader, with their averaged marks contributing 10% of the final grade in the course.
11. Complete Thesis Document [Apr 9] [25%]. A rubric for the complete written thesis will be presented in class. The final thesis will be marked by the thesis supervisor and a second reader, with their averaged marks contributing 25% of the final grade in the course.

The evaluation and testing formats for this course were created to assess the learning objectives as listed in section 4 and are necessary for meeting these learning objectives. All evaluations listed in this course outline are required components of the course and together account for 100% of the final grade. Weightings and assessment formats may be adjusted where required to support course learning objectives, with appropriate notice to students.

Policy on Missing Coursework

For all assignments from Oct 2, 2026 to Mar 5, 2026 (this includes all assignments except the Poster presentation and the final thesis) you can request an extension of up to a week from the instructor without supporting documentation. You will need to send me an email request at least 24 hrs before the due date (i.e., Thursday evenings by 11:50 pm). Unless you have submitted an extension request, each 24-hr late period will result in a loss of 10% of the available marks for a given assignment. If you require a longer-term accommodation for a health or wellness concern

lasting more than a week, please seek official accommodation by submitting your documentation to the academic counselling office.

Class Presentation on March 5. If you are unable to present on March 5, you will be provided with the opportunity to present the subsequent week on March 12.

Poster day on March 19. The only possible accommodation for missing Poster day would be to make arrangements with the instructor and the second marker to present your poster to them virtually in a zoom call within a week (pending availability of second marker). You would still be expected to produce a printed version of your poster and bring it to a subsequent class.

Complete thesis document due Friday April 9th. If you miss the deadline, you will require an extension for the essay you will need to submit a request with academic counselling.

Students who encounter extenuating circumstances affecting their academic responsibilities may submit a request for academic consideration in accordance with Western University's Academic Consideration policies. Requests must be submitted through the [Student Absence Portal](#) and may require supporting documentation.

Because this is an essay course, as per Senate Regulations, you must pass the essay component to pass the course. That is, the average mark for your written assignments must be at least 50%.

This course is exempt from the Senate requirement that students receive assessment of their work accounting for at least 15% of their final grade at least three full days before the date of the deadline for withdrawal from a course without academic penalty.

Course grades within the Psychology Department are expected to be distributed around the following averages:

70%	1000-level to 2099-level courses
72%	2100-2999-level courses
75%	3000-level courses
80%	4000-level courses

In the event that course grades are significantly higher or lower than these averages, instructors may be required to make adjustments to course grades. Such adjustment might include the normalization of one or more course components and/or the re-weighting of various course components.

Policy on Grade Rounding

Course grades are rounded to the nearest whole number. No additional assignments will be offered to enhance a final grade. Requests to change a grade because it is needed for a future program will not be considered.

6 Assessment/Evaluation Schedule

There are no tests or examinations in this course. The evaluation components are listed below with their due dates.

Oct 2. Preliminary Proposal [5%]
Oct 30. Full Proposal [10%]
Nov 13. Search Report [5%]
Nov 27. Preliminary Coding Data File [5%]
Dec 4. Draft of Introduction [10%]

Jan 22. Method Section and Completed Coding Data File [10%]
Feb 12. Results Part 1. Figures and Tables [5%]
Feb 26. Results Part 2. Written Interpretation of Results [5%]
Mar 5. Class Presentation [10%]
Mar 19. Poster [10%]
Apr 9. Complete Thesis Document [25%]

Assignments due by 11:50pm on the deadline date.

7 Class Schedule

<i>Date</i>	<i>Topics</i>	<i>Assignment Due Date</i>
Sep 11	Project overview	
Sep 18	Introduction to literature databases and search strategy	
Sep 25	Preliminary literature search to evaluate feasibility	
Oct 2	Developing the research proposal	
Oct 9	Introduction to effect sizes and their standard errors	Preliminary proposal [5%]
Oct 16	PRISMA Flowcharts and Covidence software	
Oct 23	Reading Week (no class)	
Oct 30	Writing the search report	Full proposal [10%]
Nov 6	Collecting information from the studies into a datafile	
Nov 13	Understanding effect sizes in various designs	Search report [5%]
Nov 20	Writing the introduction and method section	
Nov 27	Meta-analysis analytic procedure	Preliminary Coding [5%]
Dec 4	Meta-analysis software (jamovi, JASP, R)	Draft Introduction [10%]
Jan 8	Analysis: Producing main results	
Jan 15	Analysis continued: testing for moderation	
Jan 22	Analysis continued: evaluating bias (e.g., funnel plots)	Method and datafile [10%]
Jan 29	Preparation of tables and figures	

<i>Date</i>	<i>Topics</i>	<i>Assignment Due Date</i>
Feb 5	Interpreting results and writing the results section	
Feb 12	Writing discussion section and presentation preparation	Results Part 1 [5%]
Feb 19	Winter Reading Week (no class)	
Feb 26	Writing the full thesis paper and poster preparation	Results Part 2 [5%]
Mar 5	Class presentations	Class presentation [10%]
Mar 12	Poster preparation	
Mar 19	Poster presentation day	Poster presentation [10%]
Mar 26	Good Friday (no class)	
Apr 2	Q & A for completing thesis	
Apr 9		Thesis due Tue Apr 9 [25%]

8 Academic Integrity

Scholastic offences are taken seriously, and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Possible penalties for a scholastic offence include failure of the assignment/exam, failure of the course, suspension from the University, and expulsion from the University.

Plagiarism Detection Software

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between Western and Turnitin.com.

Use of AI

Responsible use of artificial intelligence (AI) tools is **permitted** in this course as a support for learning, not as a substitute for critical thinking or scholarly work. All use of artificial intelligence tools must comply with Western University's academic integrity standards.

Students may use AI tools (e.g., ChatGPT, Claude, Copilot) for:

- Brainstorming ideas or refining research questions
- Improving clarity, grammar, or organization
- Preliminary or background exploration of topics

AI must not be used to:

- Generate full drafts or final versions of assignments
- Replace analysis, interpretation, or synthesis
- Fabricate, misrepresent, or cite sources that the student has not independently consulted
- Bypass engagement with course materials

You are ultimately responsible for all work submitted under your name. AI output should be critically evaluated, substantially revised, and integrated thoughtfully, not copied verbatim.

All written assignments must include a brief AI Usage Statement, indicating:

- Which tools were used (if any)
- The purpose for which they were used
- How the output was modified and incorporated

Assignments submitted without an AI Usage Statement will not be accepted. Misuse of AI or failure to disclose its use may constitute a scholastic offence and will be addressed in accordance with Western University's academic integrity policies. Students are responsible for ensuring that all work complies with Western's scholastic integrity standards.

9 Academic Accommodations and Accessible Education

Western University is committed to providing an accessible learning environment. Students with disabilities or medical conditions requiring accommodation are encouraged to contact Accessible Education as early as possible. Accommodations will be implemented in accordance with University policy. Please review [Western's policy on academic accommodations](#) for student with disabilities. Accessible Education provides supports and services to students with disabilities at Western. If you think you may qualify for ongoing accommodation that will be recognized in all your courses, visit [Accessible Education](#) for more information. Email: aeu@uwo.ca Phone: 519 661-2147

10 Absence & Academic Consideration

Please review Western's policy on [Academic Considerations](#):

11 Other Information

Helpful Websites

- Western's academic policies are available at the [Office of the Registrar](#).
- Departmental policies are available at the [Psychology Department website](#).
- Learning supports available at [Learning Development & Success](#).

Well-being

Western University provides a range of supports to promote student well-being. Students are encouraged to seek assistance when needed. Students who are in emotional/mental distress should refer to [Health and Wellness at Western](#) for a complete list of options about how to obtain help. Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you.

Grade Appeals

If you wish to appeal a grade, please read the [policy documentation](#) on requests for relief. Please first contact the course instructor. If your issue is not resolved, you may make your appeal in writing to the Undergraduate Chair in Psychology (psyugrd@uwo.ca).

Copyright Statement

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