

Brock University
Department of Biological Sciences

GUIDELINES FOR OEVI 4F92 - LIBRARY RESEARCH ESSAYS

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1. NATURE OF OEVI 4F92

- a) Each student, under faculty supervision, will carry out two detailed studies of the scientific literature relating to specific topics. It is not necessary for the topics to be related, or that the same faculty member supervise both studies.
- b) Topics chosen for OEVI 4F92 must be sufficiently narrow in scope to warrant students having to undertake a critical evaluation of the topic through study of the original literature. This is to deter students from producing only a precis of a review article or text. It will be the responsibility of the course coordinator and supervisor(s) to ensure that topics fulfill this objective.
- c) The essay should *not* consist of a large survey of the literature. It should consist of a critical, in-depth analysis of a limited number of original research articles. Students must be critical in evaluating the selected papers and should point out any limitations in the rationale, methodology, data analysis or conclusions. They must also display some knowledge of statistical procedures used. When the evidence or conclusions described in different papers conflict, an attempt must be made to explain or resolve such differences in the form of a brief research proposal.
- d) Note that the OEVI 4F92 program is administered by the Department of Biological Sciences, through a unique OEVI 4F90/4f91/4F92 Program Coordinator. Each member (including Adjunct Faculty) of the Department of Biological Sciences (hereinafter referred to as “The Department”) with expertise in oenology and viticulture is expected to participate in the OEVI 4F92 program, and will therefore be expected to indicate the areas in which he or she will provide supervision. In addition, those areas that have been designated should be supported by a few example titles. The list of areas and possible titles will be available to students in the Biology Office as well as outside the OEVI 4F92 Coordinator’s Office.. Faculty members outside the Department who are recognized as CCOVI Fellows or CCOVI Professional Affiliates are permitted to supervise OEVI 4F92 students, provided that the projects being proposed are scientific in nature and fit the criteria indicated in 2(b-c) above—i.e., that they contain sufficient scientific content. These topics must be deemed acceptable by the OEVI Program Committee before the student can begin work.

- e) Each student participating in the program will be required to make his or her arrangements with a supervisor, and with the coordinator of the course within seven days of the first day of classes each academic term. Once a supervisor and student have arranged to work together on a topic, each should sign the appropriate form (Available from the Department of Biology Sciences' office - MC F234) to be submitted to the course coordinator no later than seven days after the first day of classes.

2. ADMISSION TO OEVI 4F92

All students admitted to the Year IV Honours program are eligible for this course. However, OEVI 4F92 may not be taken by a student who is registered for OEVI 4F90 and 4F91.

3. RESPONSIBILITIES OF THE SUPERVISOR

- (a) Supervisors are to ensure that the topic chosen is not too broad in scope, thus causing a student to take a general approach rather than a more penetrating and detailed study. The essay should focus on a relatively small number of key papers (e.g., six or less) in a specific area. This is not intended to discourage the students from reading a larger number of papers. In fact, such reading will probably be necessary to provide a sufficient background for understanding and to help the student identify the most important or relevant articles. Supervisors are to assist the students in selecting a *core of key papers* which, together, will form the theme of the essay. These papers should be primary research articles rather than reviews.
- (b) Supervisors are to assist the student in developing a critical and logical approach to the analysis of scientific literature and methodology. This should be done by discussion of papers from scientific journals, so that the student becomes familiar with the current ideas and techniques of the subject. A rewriting of textbook chapters or review articles is not acceptable.
- (c) Acceptable projects will normally consist of those addressing research topics and issues within the biological and/or chemical aspects of oenology and viticulture. With permission of the OEVI Program Committee, a student may undertake a project that involves elements of climatology, meteorology, agribusiness, or other topics, provided that the project follows a scientific approach with data analysis. .
- (d) Supervisors, in consultation with the course coordinator, are to assist the students in the organization of the essay, and to ensure that the drafts are of a reasonable quality with respect to style, organization, and length before final typing.

4. RESPONSIBILITIES OF THE STUDENT

- (a) Students must meet all deadlines set by their supervisors and by the course coordinator. This includes all meetings with the supervisor, reading assignments, written assignments (e.g., outlines), group meetings with the coordinator and all other deadlines (see section 8).
- (b) Although the supervisor assists in selecting a topic and identifying key references, the student is ultimately responsible for reading and understanding the literature, for extracting relevant information from the literature, for synthesizing that information and placing it in the context of the essay and for identifying limitations in the published literature. The student is also expected to have sufficient background knowledge to be able to read the literature with reasonable understanding. If background knowledge is lacking, it is the student's responsibility to bring background knowledge to a level of competency through extra reading.
- (c) The student is ultimately responsible for composing the essays. Essays must incorporate the student's original ideas and must reflect the student's comprehension and writing skills.

5. COURSE REQUIREMENTS

- (a) The student should have regularly scheduled meetings with his or her supervisor. The number and length of such meetings will vary, although weekly meetings of at least one hour are strongly recommended. The time should be used to discuss the progress of the project and for an in-depth discussion of the topic.
- (b) All students enrolled in OEVI 4F92 will meet, as a group, with the course coordinator on at least two occasions. Within the first two weeks of each semester, the coordinator will hold an orientation meeting with all new students to review the course guidelines and to ensure that students/supervisors have met the requirements outlined in section 3a above. In addition, a general progress meeting will be held at the end of six weeks. At this meeting, each of the students will make a brief oral presentation regarding the progress of their library research, and will discuss some specific studies pertinent to their essay topic.
- (c) Each term, an essay on the chosen library research topic is to be written and submitted to the course coordinator on the last day of classes of the term. The essay will normally be a synthesis of the literature relevant to the topic, and can be expected to be at least 20 pages in length, but should not exceed 50 pages. The essay format should adhere *somewhat* to the following:
 - (i) Title page
 - (ii) Abstract
 - (iii) Objective(s) of the essay
 - (iv) Introduction
 - (v) Review and Analysis of the Literature
 - (vi) Brief Research Proposal
 - (vii) Conclusions
 - (viii) Literature Cited
 - (ix) Appendices (if any)

The essay should include an experimental proposal where the student has identified questions not resolved by the literature. The student will be expected to provide details of the experimental design, and to defend the design of, and feasibility of the proposal.

There may be topics in which the format of the essay should follow an accepted outline for a journal in the field covered by the research project. A copy of the *Style Manual for Biological Journals* is available in the Departmental Office.

- (d) Each term, a final seminar will be scheduled for a one-hour period during the examination period. The student is to formally present the findings from the literature study in a well organized fashion, lasting about 30 minutes. The use of visual aides is encouraged. The seminar is open to the Department and a question period will immediately follow the presentation.
- (e) A student is normally only permitted to undertake one essay topic per term, and the two essays that comprise credit for the course must be completed in **consecutive** terms. Under special circumstances, the course may be taken during a single term. In this case, the student must have the approval of the Departmental Chair, coordinator and the supervisors involved before enrolling in the course. Since the course, in this case, will occupy 40% of the student's time, the student shall not have another commitment (job or course) involving more than 20 hours per week.

6. EVALUATION

(a) Essays

Each of the two essays will have a value of 30% of the final grade. It is therefore in the interest of the student that the supervisor be given a preliminary draft of the essay well in advance of the final submission date, and that he/she examine the final draft prior to typing. Upon submission of an essay in final form, the Course Coordinator, in consultation with the Chair of the Department, will then appoint an Examination Committee consisting of the supervisor and a reader, who will serve as Chair of the Committee. Once an essay is submitted, no further

revisions will be permitted. The Examination Committee will then examine and evaluate the essay, as submitted. The coordinator (or Examination Committee Chair designate) will be in charge of the final essay presentation and defense, and the coordinator will be responsible for collating and returning the final grades assigned, to the Chair.

Note: *Failure to submit the essay on the deadline date will ordinarily carry the penalty of a reduced grade unless there are documented medical or comparable reasons justifying late submission or unless, **under rare and exceptional circumstances**, the Chair of the Department exercises his or her discretionary powers.*

(b) **Final Seminar**

Each of the final seminar presentations will have a value of 10% of the final course mark. The seminar will be judged on criteria such as: organization, comprehensibility, smoothness of presentation, degree of familiarity the candidate shows with the topic and literature, quality of illustrative material, and the fielding of questions during the question period.

(c) **Oral Examinations**

Each oral examination of the candidate will have a value of 10% of the final course mark. This will be held as soon as practical immediately following the seminar presentation and should not exceed one hour in duration. Questioning by committee members will normally pertain to the thesis topic, but students should anticipate questions on the theoretical bases and the appropriateness of methodology used and also on the broad ramifications and significance of their topic.

(d) **Assignment of Grades and Submission of Thesis**

Marks assigned to the essay and seminar by each examiner are to be given, in writing, to the coordinator following termination of the seminar. The course coordinator will calculate the average mark and recommend the overall grade for the course to the Chair.

Prior to submission of the final grades for OEVI 4F92, the faculty of the Department, acting as a Committee of the Whole, will review all results.

Faculty approval and disposition of the thesis after the thesis defense.

When the thesis is approved by the examining committee, **the candidate must submit all corrected copies (at least two)** of the **two essays** which will be bound as a single volume thesis, to the secretary of the department **no later than seven days** after the final date of scheduled exams. A copy of the thesis must also be submitted on disk. These copies must be corrected of any errors noted by the examiners and must contain all charts, maps, figures, tables, and appendices as finally approved. One bound copy is for the supervisor and one for the student. These two copies are bound at the expense of the supervisor. Any additional copies that either the student or supervisor wishes to have bound will be paid for by the student or supervisor at a cost of \$12 per copy (payable when the theses copies are submitted to the Administrative Assistant, Dept. of Biological Sciences). Any student that does not submit the final copies for binding on time will receive an "Incomplete" grade for OEVI 4F92. **Grades will not be submitted to the Office of the Registrar until the final copies of the thesis have been submitted.**

Note: *As is the case with final grades in all courses, a student may feel compelled to appeal a final mark. In such an instance, the Chair of the Department will appoint an ad hoc committee to deal with the matter.*

7. RESPONSIBILITIES OF THE COURSE COORDINATOR

- (a) The coordinator will serve as an advisor to the students and supervisors on matters pertaining to the organization and format of the essay.
- (b) The coordinator will attend and chair all the group meetings.

- (c) The coordinator will assign membership for all the examining committees.
- (d) The coordinator will prepare a final grade in the course for each student, and forward this grade to the Chair of the Department.

8. DEADLINES

- (a) Choice of topic and supervisor, including submission of Supervisor/Student Agreement Form to coordinator: Within seven days after the commencement of classes for each term (i.e., fall, winter or spring term).
- (b) Submission of the first essay draft to the supervisor: Three weeks before the end of each term (i.e., fall, winter or spring term).
- (c) For the September - April period, final submission of the thesis (**two copies**) to the OEVI 4F92 Program Coordinator will occur **prior to 5 p.m. on the last day of classes in both December and April**. No further revisions will be permitted. This copy is to be graded, as submitted, by the Examination Committee. Failure to submit the thesis on the deadline date will carry the **penalty** of a reduced grade unless there are documented medical or comparable reasons justifying late submission or unless, **under rare exceptional circumstances**, the Chair of the Department, in consultation with the Program Coordinator, exercises his/her discretionary powers. There are no predetermined penalties. Penalties are determined by faculty of the Departmental Committee as a whole on an individual, case by case basis.
- (d) Seminar and defense: During the final examination period for each term.
- (e) Submission of one copy of the **two essays**, which will be bound as a single volume thesis, to the course coordinator: **no later than seven days** after the final date of scheduled exams. [see item 6(d) for complete details]. A copy of the thesis must also be submitted on disk.

9. OEVI 4F92 TAKEN OUTSIDE THE NORMAL ACADEMIC YEAR

Normally OEVI 4F92 will be taken over a two-term period, with a single essay topic being researched each term. For most students, this will involve the period of September to April.

OEVI 4F92 may also be taken either during the Winter (January to August) or Spring (May to December) terms. All regulations apply with the exceptions of deadlines noted below. In the case of the **Winter term**, students would begin on **first day of classes** and submit the final submission of the thesis by **August 7th** or, if a weekend, on the following Monday. **Spring term** students would begin on **the first day of classes** and submit the final submission of the thesis by the **last day of classes in the Fall term**. The final seminar and oral defense will take place in a **one and one half** hour period within two weeks of the submission date of all theses.

PART TWO

BROCK UNIVERSITY

Department of Biological Sciences

INSTRUCTIONS FOR THE PREPARATION AND SUBMISSION OF BSc (HONOURS) THESES

A student submitting a BSc (Honours) thesis for degree credit must ultimately submit **two copies** of his/her approved thesis to the secretary of the department or to his/her delegate before the degree will be conferred. The thesis shall be a report of research work carried out during the candidate's final year. The following regulations are provided for the guidance of students and faculty.

GENERAL INFORMATION

1. **Number of copies prior to thesis defense.** TWO copies (SEE PART ONE FOR DETAILS) of the thesis must be prepared. The TWO copies shall be submitted in an unbound form to the coordinator of OEVI 4F90/91 for examination. Each copy must be adequately secured in a large envelope or in a spring-back folder, but not in a folder requiring the punching of holes in the pages of the thesis. The student should bring her/his own copy of the thesis to their thesis defense.
2. **Faculty approval and disposition of the thesis after the thesis defense.** When the thesis is approved by the examining committee, the candidate must submit TWO copies (or more if **requested**) of the approved thesis for binding to the secretary of the department **no later than seven days** after the final date of scheduled exams. A copy of the thesis must also be submitted on disk. These copies must be corrected of any errors noted by the examiners and must contain all charts, maps, figures, tables, and appendices as finally approved. One bound copy is for the supervisor and one for the student. These two copies are bound at the expense of the supervisor. Any additional copies that the student wishes to have bound will be paid for by the student at a cost of \$12 per copy (payable when the theses copies are submitted to the Administrative Assistant in the Department of Biological Sciences). Any student that does not submit the final copies for binding on time will receive an "Incomplete" grade for 4F90 and 4F91. Students will also be required to return all keys that were signed out from Science Stores or CCOVI. Grades will not be submitted to the Office of the Registrar until the final copies of the thesis have been submitted and until all keys have been returned.
3. **Rights to lend and reproduce the thesis.** Unless there is a specific arrangement to the contrary, the university will allow the thesis to be consulted or borrowed or to be used in whole or in part in photocopied or microfilmed form.

PAPER AND TYPING

1. A good bond paper must be used for all copies of the thesis. The size of paper must be 8 1/2 x 11 inches, except for drawings and maps, on which no restriction is placed. A margin of 1 1/2 inches must be left on the left-hand side of all bound pages, and margins of 1/2 inch on the other three sides.
2. The title page should bear the title of the thesis and the candidate's name as registered at Brock.
3. All typing and other costs of preparing the thesis are the responsibility of the student. All theses must be typed. Copies of laser-printed theses are acceptable; dot matrix print type is unacceptable. Students are **not permitted** to use the departmental laser printer for printing. Students registered in OEVI 4F90/91 or OEVI 4F92 may use the departmental photocopier (copier touch key available through the print shop), but students are **not permitted** to use the photocopier for the duplication of their thesis.
4. All typing must be double-spaced; tables and references may be single-spaced.

5. Only right-hand pages should be numbered. These should be numbered in one continuous sequence in Arabic numerals from one onwards. This sequence should include everything bound in the volume.
6. Photographic and other illustrations should be securely fixed by dry-mounting. "Photograph album pockets" or slits in the pages are not acceptable. Under no circumstances should Scotch-tape or a similar material be used for any purpose in a copy of the thesis.
7. Material not bound in the thesis should be placed in an adequately guarded pocket at the end of the thesis. Such material should bear the candidate's name, initials and degree.

FORMAT

A. Preliminary Pages

1. **The first page.** The first page must be a blank, unnumbered sheet.
2. **Title page.** The form of the title page must follow the sample shown at the end of these instructions. It must state the full title of the thesis, the candidate's name in full, the degree expected, the title of the department and the year of submission.
3. **Abstract.** The abstract should be a summary of the thesis outlining the problem, the methods of investigation, the main results and the general conclusions. It should not normally exceed 300 words.
4. **Acknowledgments.** This section should be a brief acknowledgment of assistance given to the candidate during the research and writing.
5. **Table of Contents.** This should set forth all the principal topics or subdivisions of the thesis.
6. **List of Tables.**
7. **List of Illustrations.** This should include separate lists of all figures, plates, and maps.

B. Text

Although the following sections may not be applicable to all theses, they are offered as a guide.

1. **Introduction and Literature Review (combined or separate sections).** The introduction to a thesis should normally present the purpose, methods and scope of the study together with a survey of the literature pertaining to the subject of the investigation.
2. **Detailed Discussion of Journal Papers.** A detailed discussion of three to six papers should follow the Literature Review.
3. **Research Proposal.** An NSERC-style proposal with a budget should be included.
4. Each **Figure number and legend** should appear on the same page as the Figure and be placed under the Figure at the bottom of the page.
6. **Footnotes.** The extensive use of footnotes is not acceptable, but where such additions to the text are considered necessary, they should be placed at the bottom of the appropriate page. A consistent style for footnotes, approved by the major department, must be followed throughout the thesis.

C. Literature Cited

The **Literature Cited** is a very important part of a thesis and care should be given to its preparation. The general form of each citation and the method of abbreviating names of periodicals should be the same as that used in an appropriate journal recommended by the supervisor.

The usually followed mode of referencing is that known as the name-and-year system outlined in the Literature Cited subsection of the *Style Manual for Biological Journals*, one copy of which is available from the departmental secretary.

Formats recommended for the three most commonly used citation types are outlined below:

1. Journal Article

Surname of senior author, initials of senior author (if two authors), and, initials of junior author, surname of junior author (if three authors), comma, initials of second author, surname of second author, and, initials of third author, surname of third author, period, date, period, title of journal article (capitalize first word and proper names only), period, abbreviated journal title, period, volume number, colon, first page number of article, hyphen, last page number of article, period.

Paper citation example; continuously paginated journal:

McCarthy, M.G. and B.G. Coombe. 1985. Water status and winegrape quality. *Acta Hort.* 171:447-456.

Paper citation example; non-continuously paginated journal:

Reynolds, A.G. 2008. Irrigation management in the East: How much is enough? *Wine East* 35(5): 38-49, 62-63.

2. Book

Author(s) as above, period, date, period, title (capitalize first word and proper names only), period, publisher, comma, place (city) of publication, period, last page number, period.

Book citation example:

Mullins, M.G., A. Bouquet, and L.E. Williams. 1992. *Biology of the Grapevine*. Cambridge University Press, Cambridge, UK.

3. Part of Book or Proceedings

Author(s) as above, period, date, period, title of section (capitalize first word only), comma, p, period, first page of section, hyphen, last page of section, period, In (italicized), initials of author or editor of book, surname of author, comma, title of book (capitalize first word only), period, publisher, comma, place of publication, period.

Proceedings citation example:

Cline, R.A., K.H. Fisher, and O.A. Bradt. 1985. The effects of trickle irrigation and training system on the performance of Concord grapes. *In* Brown, R.B. (Ed.): *Proceedings of the 3rd International Drip/Trickle Irrigation Congress*. pp. 220-230. Amer. Soc. Agric. Engineers, St. Joseph, MI.

3. Miscellaneous Publications

Government Publication citation example:

Ontario Ministry of Agriculture, Food and Rural Affairs. 2002. *Fruit Production Recommendations*. Publication 360, Ontario Ministry of Agriculture, Food and Rural Affairs, Toronto, ON.

D. Appendices

Appendix pages are numbered in chronological sequence following the last page of the Literature Cited section of the thesis. Appendices can be used to present material accessory to the argument of the text. These may be of such nature as not to form integral parts of the text. Such material as extensive tables, mathematical developments, and additional experiments may well form appendices. Each topic shall form a separate appendix, which must be identified by an upper case Roman letter. References used in appendices will not be included in the list of references, but should appear as a separate section at the end of the Appendix.

E. Last Page

The last page should be a blank, unnumbered sheet.

These instructions serve as a guide to the principal points to be kept in mind when organizing the thesis. It is the responsibility of the thesis supervisor to ensure that details not considered here (e.g., coloring of illustrations, quality of photographic plates, etc.) are discussed and clarified with the student.

May 2010

(SAMPLE TITLE PAGE)

Using GPS, GIS and Airborne Imaging to Understand Niagara Terroir

Linda Tremblay

Department of Biological Sciences

(Submitted in partial fulfillment of the requirements
for the degree of Bachelor of Science - Honours)

Brock University

St. Catharines, Ontario

August 2007