Project Course – Anat 9580
Research Project or Teaching Practicum

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Course Overview

This core course provides the main framework of the graduate student experience. Students will have a choice of pursuing one of two streams: lab-based research or educational scholarship and teaching-related activities. Both streams require students to manage their time effectively, solve problems, work independently and as part of team, contribute to the community (lab or classroom), and present complex material to a wide audience. Students will be matched with a project/practicum and a faculty supervisor by the end of September. A set number of research projects and teaching practicums will be available, and students will be matched based on interests, previous experience, and compatibility with supervisors. Projects and practicums will be posted on the course OWL site. It is the student’s responsibility to inquire about opportunities that are of interest. Start early and ask lots of questions!!! Both streams emphasize the same key learning components: independent thought and creation; expression of thought through writing; and communication skills building.

Therefore, the main objectives of this course are to: 1. Encourage critical thinking and problem solving and 2. Provide opportunities for improving written and oral communication. Student assessment (see Table 1) is based on these objectives.

<table>
<thead>
<tr>
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<th>Student Assessment</th>
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</thead>
<tbody>
<tr>
<td><strong>Research</strong></td>
<td></td>
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<tr>
<td>Review paper – 10%</td>
<td>Review paper – 10%</td>
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<tr>
<td>Committee progress reports (~3) – 30%</td>
<td>Learning resource meetings (~3) – 30%</td>
</tr>
<tr>
<td>Final oral presentation – 15%</td>
<td>Oral presentation of grant proposal – 15%</td>
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<tr>
<td>Project manuscript – 40%</td>
<td>Grant proposal – 40%</td>
</tr>
<tr>
<td>Supervisor evaluation – 5%</td>
<td>Supervisor evaluation – 5%</td>
</tr>
</tbody>
</table>
**Concerns?** If problems arise, such as challenges with the project or with the lab environment, the student is expected to discuss these problems with their supervisor **FIRST**. If a resolution is not reached, the student or the supervisor should contact the course coordinators.

**RESEARCH STREAM:**

This stream offers a guided research-based program in which students work under the mentorship of faculty and other lab members. Students will learn about and experience the scientific process by participating actively in original research pertinent to the laboratory and mentors guiding them. Experiences will include: reading and evaluating background literature, participating in research methods and techniques of the chosen lab, and communicating the scientific process and findings through oral and written presentations. The goal is to offer students the opportunity to actively participate in lab-based scientific inquiry.

**Composition of the Advisory Committee**

In addition to their faculty supervisor, all MSc clinical anatomy students must have a supervisory committee for their research project. Members of the supervisory committee should be viewed as a valuable resource and consulted often both informally and during supervisory committee meetings. The supervisory committee will be composed of the primary supervisor, and a minimum of 2 faculty members, one with expertise relevant to the project and a representative of the GAC.

**Expectations**

**Student Responsibility:** Students are responsible for reviewing the list of projects and contacting the primary supervisors to discuss a possible match. Students should contact more than one supervisor on the list and rank each project in case they do not get their first match. The student is responsible for scheduling the supervisory committee meetings and ensuring they are completed on time as per the guidelines. Students must complete any training required to do the proposed project. Students are expected to contribute positively to the lab “culture”, such as attending lab meetings, helping other students in the lab, and working to help forward to collective goals of the lab. Given that Masters of Clinical Anatomy students have many program commitments outside of research (eg. coursework, teaching assistantships, and milestones), they must inform their supervisors of these other responsibilities in a timely manner.

**Supervisor Responsibility:** Supervisors will make initial contact with potential supervisory committee members to ask if they are willing to serve. Normally this will be done soon after the student has started in the program but changes in supervisory committee composition may occur at different times during the degree. Supervisors are also responsible for helping to ensure that supervisory committee meetings occur on time. Supervisors or a designate from the lab, must ensure that students obtain appropriate training to carry out the proposed work. We ask that supervisors provide the student with constructive feedback regularly to ensure student is meeting expectations of the lab/project both informally as well as formally via progress reports and supervisor evaluation.

**GAC Responsibility:** A GAC member will be assigned to all student supervisory committees. A member of the GAC can act as both a GAC representative and scientific advisor if expertise is appropriate. The GAC member, in consultation with the other members of the supervisory committee, will complete the supervisory committee report form. The GAC member is also responsible for explaining the results of the report to the student and answering any questions the student might have concerning the report. At
their discretion, a GAC member can call for additional committee meetings should they believe more frequent or additional meetings are warranted.

**Supervisory Committee Meeting Schedule**

Students should always feel free to ask for guidance or advice from their supervisors, members of the supervisory committee, and the course coordinators. However, at various stages during the course of the program, formal meetings are required to assess progress and provide constructive feedback that will allow the student to continue to develop towards completion of the degree. It is the responsibility of the student to organize committee meetings as listed in the schedule outlined below in Table 2.

**Table 2. Research Project – Committee Meeting Schedule and Assessment Timeline**

<table>
<thead>
<tr>
<th>Meeting # 1</th>
<th>September 2017</th>
<th>% of Mark</th>
<th>Evaluators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting # 2</td>
<td>October 2017</td>
<td>10</td>
<td>Meet with supervisor and committee members</td>
</tr>
<tr>
<td>Review Paper</td>
<td>May 2018</td>
<td>15</td>
<td>Supervisor and committee members</td>
</tr>
<tr>
<td>Meeting # 3 (Progress Report 1)</td>
<td>June 2018</td>
<td>10</td>
<td>Present formal project proposal to committee. Supervisor and committee members</td>
</tr>
<tr>
<td>Supervisor Evaluation</td>
<td>August 2018</td>
<td>5</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Meeting # 4 (Progress Report 2)</td>
<td>October 2018</td>
<td>10</td>
<td>Present results and preliminary interpretation. Supervisor and committee members</td>
</tr>
<tr>
<td>Meeting # 5 (Progress Report 3)</td>
<td>January - February 2018</td>
<td>10</td>
<td>Present full study to date and submit draft of manuscript. Supervisor and committee members</td>
</tr>
</tbody>
</table>
Assessment Details

Meeting #1: By the end of September (Year 1), students should meet with their supervisor to discuss the main goals of the project and to select committee members. This meeting does not require a formal progress report.

Meeting #2: By the end of October (Year 1), students should meet with their entire supervisory committee for general introductions and a brief description of the project. This introductory meeting is informal and does not require a progress report.

Review Paper: by the end of May (Year 2), students are required to submit a completed review paper through the OWL assignments link. If requested, copies can also be sent directly to supervisors. The purpose of the review is to ensure that students have a general understanding of the field in which their project fits, and how their specific research question(s) relate to the bigger picture. While students are encouraged to use this review to write the introduction for their final paper, this review should provide a more comprehensive background of the field and follow the scope and style of reviews published in reputable peer-reviewed journals in the field. Students should add their own hypothesis to the review. It should be more of a position paper than simply a statement of facts such as would be found in a textbook. Literature reviews will be graded by supervisors/committee members. Reviews received after May 31st will receive a grade of 0.

A resource you might find helpful for your writing.
http://writeonline.ca/litreview.php?content=intro

Meeting #3: By the end of June (Year 2), students should formally present a proposal of their research project as well as any results collected. Students are required to submit a written proposal to their committee at least 5 business days prior to the meeting.

Background of Project – Provide a description of key findings leading to the creation of the goal and objectives to be measured or hypothesis to be tested. Include relevant references if applicable.

Hypothesis – Provide a focused hypothesis for the project to be undertaken. The hypothesis must be succinct and testable.

Objectives – Define the objectives to be pursued, the rationale for the objectives selected and the methods that will be employed to evaluate each objective. Using point form, indicate the tasks to be completed for each objective including relevant methodology.
This meeting is a chance for committee members to provide face-to-face feedback on the student’s review paper, progress-to-date, and proposed research. Students are encouraged to discuss any challenges they are experiencing with their committee such that committee members can provide suggestions. This meeting will be evaluated by the supervisor and committee members and does require a progress report.  

**Project Proposal Form**

**Supervisor Evaluation:** by the end of August, the student’s supervisor will evaluate overall performance in the lab. This evaluation will be based on the student’s conduct in the lab, commitment, initiative, and record of activity (e.g. lab book). The purpose of this evaluation is to provide the student with feedback and to ensure that expectations are met.

**Meeting #4:** by the end of October (Year 2), students should formally present their results, preliminary interpretation of results, challenges, and timeline for next steps. Students are required to submit a written document to their committee at **least 5 business days prior** to the meeting that provides a background and rationale for the project, materials and methods used (to date), and results (to date) including figures and tables. This written document will form the basis for the final written report. This meeting will be evaluated by the supervisor and committee members and does require a progress report.  

**Progress Meeting Form**

**Meeting #5:** by end of February (Year 2), students will formally present their complete research project. Students will also provide their committee with a complete draft of their final manuscript at **least 5 business days prior** to the meeting. The purpose of this meeting is to receive feedback from the committee on the manuscript before final submission with enough time for the student to incorporate changes and to complete any final experiments. This meeting will be evaluated by the supervisor and committee members and does require a progress report.  

**Progress Meeting Form**

**Project Manuscript:** April (Year 2) students are required to submit a completed manuscript through the OWL assignments link. Reports are to be written in the style of a journal manuscript including an Abstract, Introduction, Methods, Results, Discussion sections and References as appropriate for the field of study. Figures and legends should be publication quality and appended at the end of the report. Specifics of content and style should be discussed with your supervisor. Reports should be no longer than 30 pages, double-spaced, excluding abstract, figures, and references. After submission, the paper will be marked by at least two faculty members other than the supervisor and committee members. Manuscripts received after April 25th will receive a grade of 0.

**Final Presentation:** by the end of April (Year 2) students will give a formal presentation that should be no longer than 20 minutes, followed by 10 minutes for questions. Students should present their entire project with background, objectives, hypotheses, methods, results, and discussion. Sessions will be attended by faculty and other department members. All Masters of Clinical Anatomy students should attend each final presentation. Faculty **(other than the supervisor and committee members)** will grade the presentations. Please appreciate that negative results are not uncommon, especially in short time-frames such as this course. Sometimes experimental ideas or plans fail – the nature of research. Evaluations are not based on whether the study hypothesis and results were successful as planned.
Supervisory Committee Evaluation Forms from Progress Meetings

Supervisory committee reports and appraisals must be completed at meetings 3 through 5. A copy of each progress report is to be kept on file in the department office along with committee reports. The student appraisal forms will help to identify areas of strength and weakness. Areas of weakness are expected to show improvement in subsequent supervisory meetings. Failure to do so may result in removal from the program. *Committee meeting progress reports will assess the student’s progress in their: command of current literature; development of the research question(s); understanding of appropriate tools used to address the project; articulation of significance of the project; ability to develop the project beyond the scope initially provided by the mentor.* The student should bring the appropriate form to the meeting for the committee to complete and return the signed form to the department office.
TEACHING PRACTICUM:

This stream offers a guided teaching-based program in which students work under the mentorship of faculty. Students’ work in this stream will focus on the planning essential for teaching; students will use current pedagogical research to inform their design, development, and/or assessment of a learning resource. Experiences will include: reading and evaluating background literature, developing a learning tool that addresses the needs of a specific course, or assessing the efficacy of a previously developed learning tool, and developing a grant proposal. The goal is to offer students the opportunity to actively participate in all activities associated with teaching at the university level, including but also beyond classroom instruction.

Composition of the Advisory Committee

In addition to their faculty supervisor, all MSc clinical anatomy students must have a supervisory committee for their teaching practicum. Members of the supervisory committee should be viewed as a valuable resource and consulted often both informally and during supervisory committee meetings. The supervisory committee will be composed of the primary supervisor, and a minimum of 2 faculty members, one with expertise relevant to the project and a representative of the GAC.

Expectations

Student Responsibility: Students are responsible for reviewing the list of projects and contacting the primary supervisors to discuss a possible match. Students should contact more than one supervisor on the list and rank each project in case they do not get their first match. The student is responsible for scheduling the supervisory committee meetings and ensuring they are completed on time as per the guidelines. Students must complete any training required to do the proposed project. Given that Masters of Clinical Anatomy students have many program commitments outside of research/teaching (eg. coursework, teaching assistantships, and milestones), they must inform their supervisors of these other responsibilities in a timely manner.

Supervisor Responsibility: Supervisors will make initial contact with potential supervisory committee members to ask if they are willing to serve. Normally this will be done soon after the student has started in the program but changes in supervisory committee composition may occur at different times during the degree. Supervisors are also responsible for helping to ensure that supervisory committee meetings occur on time. Supervisors must ensure that students obtain appropriate training to carry out the proposed work. We ask that supervisors provide the student with constructive feedback regularly to ensure that the student is meeting expectations of the project both informally as well as formally via progress reports and supervisor evaluation.

GAC Responsibility: A GAC member will be assigned to all student supervisory committees. A member of the GAC can act as both a GAC representative and scientific advisor if expertise is appropriate. The GAC member, in consultation with the other members of the supervisory committee, will complete the supervisory committee report form. The GAC member is also responsible for explaining the results of the report to the student and answering any questions the student might have concerning the report. At their discretion, a GAC member can call for additional committee meetings should they believe more frequent or additional meetings are warranted.
Supervisory Committee Meeting Schedule

Students should always feel free to ask for guidance or advice from their supervisors, members of the supervisory committee, and the course coordinators. However, at various stages during the course of the program, formal meetings are required to assess progress and provide constructive feedback that will allow the student to continue to develop towards completion of the degree. It is the responsibility of the student to organize committee meetings as listed in the schedule outlined below in Table 3.

Table 3. Teaching Practicum – Committee Meeting Schedule and Assessment Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>% of Mark</th>
<th>Evaluators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting # 1</td>
<td>September 2017</td>
<td>Meet with supervisor to discuss main goals and choose committee</td>
</tr>
<tr>
<td>Meeting # 2</td>
<td>October 2017</td>
<td>Meet with supervisor and committee members to give brief description of project</td>
</tr>
<tr>
<td>Review Paper</td>
<td>May 2018</td>
<td>15 Evaluated by supervisor and committee members</td>
</tr>
<tr>
<td>Meeting # 3 (Progress Report 1)</td>
<td>June 2018</td>
<td>10 Present formal project proposal to committee. Evaluated by supervisor and committee members</td>
</tr>
<tr>
<td>Supervisor Evaluation</td>
<td>August 2018</td>
<td>5 Evaluated by supervisor</td>
</tr>
<tr>
<td>Meeting # 4 (Progress Report 2)</td>
<td>October 2018</td>
<td>10 Present progress made on learning resource and grant proposal. Evaluated by supervisor and committee members</td>
</tr>
<tr>
<td>Meeting # 5 (Progress Report 3)</td>
<td>January - February 2018</td>
<td>10 Present learning resource and submit draft of grant. Evaluated by supervisor and committee members</td>
</tr>
<tr>
<td>Final Oral Presentation</td>
<td>April 2018</td>
<td>10 Present learning resource development/assessment and its grounding in educational research leading to grant proposal. Evaluated by faculty external to the project</td>
</tr>
<tr>
<td>Grant Proposal</td>
<td>April 2018</td>
<td>40 Evaluated by two faculty external to the project</td>
</tr>
</tbody>
</table>
Assessment Details

Meeting #1: By the end of September (Year 1), students should meet with their supervisor to discuss the main goals of the project and to select committee members. This meeting does not require a formal progress report.

Meeting #2: By the end of October (Year 1), students should meet with their entire supervisory committee for general introductions and a brief description of the project. This introductory meeting is informal and does not require a progress report. If the project is a development project, then a clear aim or goal for the educational resource should be provided with appropriate rationale.

Review Paper: by the end of May (Year 2), students are required to submit a completed review paper through the OWL assignments link. If requested, copies can also be sent directly to supervisors. The purpose of the review is to ensure that students have a general understanding of the gap in educational literature that their learning resource will address, and how their learning resource will address this need. The review should also discuss how this learning tool fits within the broader context of current and past teaching pedagogy. While students are encouraged to use this review to write the introduction for their grant proposal, this review should provide a more comprehensive background of the field and follow the scope and style of reviews published in reputable peer-reviewed journals in the field. Students should add their own hypothesis to the review. It should be more of a position paper than simply a statement of facts such as would be found in a textbook. Literature reviews will be graded by supervisors/committee members. Reviews received after May 31st will receive a grade of 0.


Meeting #3: By the end of June (Year 2), students should formally present a proposal of their learning resource or assessment of a previously developed learning tool. Students are required to submit a written proposal to their committee at least 5 business days prior to the meeting. This meeting is a chance for committee members to provide face-to-face feedback on the student’s review paper, progress-to-date, and proposed learning resource. Students are encouraged to discuss any challenges they are experiencing with their committee such that committee members can provide suggestions. This meeting will be evaluated by the supervisor and committee members and does require a progress report. Project Proposal Form

Supervisor Evaluation: by the end of August, the student’s supervisor will evaluate overall performance related to the resource development process. This evaluation will be based on the student’s conduct in the meetings, commitment, initiative, and record of activity. The purpose of this evaluation is to provide the student with feedback and to ensure that expectations are met.

Meeting #4: by the end of October (Year 2), students should formally present their resource tool development, ethics application, challenges, and timeline for next steps. Students are required to submit a written document to their committee at least 5 business days prior to the meeting that provides a background and rationale for the learning resource, rationale for pedagogical approach, and development of the learning resource or assessment (to date) including figures and tables where appropriate. This written document will form the basis for the final written report. This meeting will be
evaluated by the supervisor and committee members and does require a progress report. Progress Meeting Form

Meeting #5: by end of February (Year 2), students will formally present their grant proposal, with the development and/or preliminary assessment of the resource completed to support their grant. Students will also provide their committee with a complete draft of their proposal at least 5 business days prior to the meeting. The purpose of this meeting is to receive feedback from the committee on the grant before the final submission with enough time for the student to incorporate changes. This meeting will be evaluated by the supervisor and committee members and does require a progress report. Progress Meeting Form

Grant Proposal: April (Year 2) students are required to submit a completed grant proposal through the OWL assignments link. Instructions for the grant will be clearly outlined on OWL. After submission, the grant will be marked by at least two faculty members other than the supervisor and committee members. Grant proposal received after April 25th will receive a grade of 0. Guidelines for internal funding for education grants. https://www.uwo.ca/tsc/awards_and_grants/western_funding_initiatives/index.html

Final Presentation: by the end of April (Year 2) students will give a formal presentation that should be no longer than 20 minutes, followed by 10 minutes for questions. Students should present their grant and resource tool providing background and rationale, overall objectives, some detail of the specific aims and expected outcomes and significance. Sessions will be attended by faculty and other department members. All Masters of Clinical Anatomy students should attend each final presentation. Faculty (other than the supervisor and committee members) will grade the presentations.

Supervisory Committee Evaluation Forms for Progress Meetings
Supervisory committee reports and appraisals must be completed at meetings 3 through 5. A copy of each progress report is to be kept on file in the department office along with committee reports. The student appraisal forms will help to identify areas of strength and weakness. Areas of weakness are expected to show improvement in subsequent supervisory meetings. Failure to do so may result in removal from the program. Committee meeting progress reports will assess the student’s progress in their: command of current literature; development of the research question(s); understanding of appropriate tools used to address the project; articulation of significance of the project; ability to develop the project beyond the scope initially provided by the mentor. The student should bring the appropriate form to the meeting for the committee to complete and return the signed form to the department office.