Welcome to Anatomy and Cell Biology

Over the next several years you will be working closely with faculty and students associated with the ACB Graduate Program. During your studies, there are requirements that you must complete to successfully graduate from the program. The purpose of the handbook is to provide information about each of the tracks and clearly outline all the program requirements. Since there are several tracks in the ACB graduate program (i.e. MSc Research, MSc Clinical Anatomy, PhD, Direct-entry PhD, MD/PhD), requirements are outlined individually for each track. It is important that you understand all the requirements since you will be held to them. Seek assistance from the Associate Chair for Graduate Studies or a member of the Graduate Affairs Committee (GAC) if you have any questions or concerns.
Contact Information

Paul Walton  
Associate Chair of Graduate Studies  
Associate Professor  
MSB 474  
(519) 661-2111 ext. 86825  
pwalton@uwo.ca

Kim Catalano  
Graduate Program Coordinator  
MSB 443  
(519) 661-2111 ext. 81524  
Kimberly.Catalano@schulich.uwo.ca

Alison Allan  
Professor  
Chair - Department  
LHSC-VC A4-132 (VRL)  
(519) 661-2111 ext. 84054  
aallan3@uwo.ca

Brian Allman  
Associate Professor  
GAC Representative  
MSB 460 (UWO)  
(519) 661-2111 ext. 88689  
brian.allman@schulich.uwo.ca

Katherine Willmore  
Assistant Professor  
GAC Representative  
MSB 487 (UWO)  
(519) 661-2111 ext. 86756  
katherine.willmore@schulich.uwo.ca

Shawn Whitehead  
Associate Professor  
GAC Representative  
MSB 458 (UWO)  
(519) 661-2111 ext. 80440  
shawn.whitehead@schulich.uwo.ca

Trevor Shepherd  
Associate Professor  
GAC Representative  
DSB 0071 (UWO)  
(519) 661-2111 ext. 58194  
tshephe6@uwo.ca

Maddie Norris  
PhD Candidate-Clinical  
Student GAC Representative  
morris6@uwo.ca

Kelly Baines  
PhD Candidate - Research  
Student GAC Representative  
kbaines5@uwo.ca
## Table of Contents

### ANATOMY & CELL BIOLOGY

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTACT INFORMATION</td>
<td>3</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>4</td>
</tr>
</tbody>
</table>

### MSC - CLINICAL ANATOMY STREAM

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Student Orientation</td>
<td>6</td>
</tr>
<tr>
<td>Program Requirements</td>
<td>7</td>
</tr>
<tr>
<td>Degree Requirements</td>
<td>7</td>
</tr>
<tr>
<td>Progress Expectations for Year 1</td>
<td>8</td>
</tr>
<tr>
<td>Progress Expectations for Year 2</td>
<td>8</td>
</tr>
</tbody>
</table>

### MSC- BIOLOGICAL RESEARCH STREAM

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSc Requirements: Biological Research Stream</td>
<td>9</td>
</tr>
<tr>
<td>New Student Orientation</td>
<td>9</td>
</tr>
<tr>
<td>Program Requirements</td>
<td>9</td>
</tr>
<tr>
<td>Degree Requirements</td>
<td>10</td>
</tr>
<tr>
<td>Responsibilities of Supervisory Committee Participants</td>
<td>11</td>
</tr>
<tr>
<td>Progress Expectations for Year 1</td>
<td>12</td>
</tr>
<tr>
<td>Progress Expectations for Year 2</td>
<td>12</td>
</tr>
<tr>
<td>MSC to PhD Transfer</td>
<td>13</td>
</tr>
</tbody>
</table>

### PHD- BIOLOGICAL RESEARCH AND CLINICAL ANATOMY STREAMS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD Requirements (Excluding Direct-Entry and MD/PhD)</td>
<td>14</td>
</tr>
<tr>
<td>New Student Orientation</td>
<td>14</td>
</tr>
<tr>
<td>Program Requirements</td>
<td>14</td>
</tr>
<tr>
<td>Degree Requirements</td>
<td>15</td>
</tr>
<tr>
<td>Responsibilities of Supervisory Committee Participants</td>
<td>16</td>
</tr>
<tr>
<td>Requirements for Students Entering the PhD Program after Completing an MSc Degree</td>
<td>17</td>
</tr>
<tr>
<td>Progress Expectations for Year 1</td>
<td>17</td>
</tr>
<tr>
<td>Progress Expectations for Year 2</td>
<td>17</td>
</tr>
<tr>
<td>Progress Expectations for Year 3</td>
<td>18</td>
</tr>
<tr>
<td>Progress Expectations for Year 4</td>
<td>18</td>
</tr>
<tr>
<td>Requirements for Students transferring from the MSc to PhD program</td>
<td>18</td>
</tr>
<tr>
<td>Progress Expectations for Year 1</td>
<td>18</td>
</tr>
<tr>
<td>Progress Expectations for Year 2</td>
<td>19</td>
</tr>
<tr>
<td>Progress Expectations for Year 3</td>
<td>19</td>
</tr>
</tbody>
</table>

### DIRECT-ENTRY PHD

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements for Direct Entry PhD Students</td>
<td>19</td>
</tr>
<tr>
<td>New Student Orientation</td>
<td>19</td>
</tr>
<tr>
<td>Program Requirements</td>
<td>20</td>
</tr>
<tr>
<td>Degree Requirements</td>
<td>20</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Responsibilities of Supervisory Committee Participants</td>
<td>22</td>
</tr>
<tr>
<td>Progress Expectations for Year 1</td>
<td>23</td>
</tr>
<tr>
<td>Progress Expectations for Year 2</td>
<td>23</td>
</tr>
<tr>
<td>Progress Expectations for Year 3</td>
<td>23</td>
</tr>
<tr>
<td>Progress Expectations for Year 4</td>
<td>24</td>
</tr>
<tr>
<td>Progress Expectations for Year 5</td>
<td>24</td>
</tr>
<tr>
<td><strong>MD/PhD</strong></td>
<td></td>
</tr>
<tr>
<td>Requirements for MD/PhD Students</td>
<td>25</td>
</tr>
<tr>
<td>New Student Orientation</td>
<td>25</td>
</tr>
<tr>
<td>Program Requirements</td>
<td>25</td>
</tr>
<tr>
<td>Degree Requirements</td>
<td>26</td>
</tr>
<tr>
<td>Responsibilities of Supervisory Committee Participants</td>
<td>27</td>
</tr>
<tr>
<td>Progress Expectations for Year 1</td>
<td>28</td>
</tr>
<tr>
<td>Progress Expectations for Year 2</td>
<td>29</td>
</tr>
<tr>
<td>Progress Expectations for Year 3</td>
<td>29</td>
</tr>
<tr>
<td><strong>Research Progress Reports and Proposals</strong></td>
<td></td>
</tr>
<tr>
<td>Research Proposals and Progress Reports</td>
<td>30</td>
</tr>
<tr>
<td><strong>PhD Comprehensive Exam (ANATCELL9605)</strong></td>
<td></td>
</tr>
<tr>
<td>Comprehensive Course (ANATCELL9605)</td>
<td>32</td>
</tr>
<tr>
<td><strong>Additional Information and Program Policies</strong></td>
<td></td>
</tr>
<tr>
<td>Teaching Assistants and Part-Time Jobs</td>
<td>35</td>
</tr>
<tr>
<td>Holidays</td>
<td>36</td>
</tr>
</tbody>
</table>
MSc - Clinical Anatomy Stream

MSc Requirements: Clinical Anatomy Stream

New Student Orientation

All new MSc students starting their degrees in September are required to attend both the ACB and Schulich Student Orientation sessions. Orientation begins the Tuesday following Labour Day. During Orientation students will:

- Receive orientation/information sessions from the Graduate Chair and Graduate Program Coordinator. Additional information will also be provided by:
  - The Society of Graduate Students (SOGS)
  - The Teaching Assistant (TA) Union
  - The School of Graduate and Postdoctoral Studies (SGPS)
  - Occupational Health and Safety
  - UWO Ethics Office
  - ACB Graduate Course Co-ordinators
  - Animal Care and Veterinary Services (ACVS)
- Identify and enrol in all necessary laboratory safety and ACVS courses.
- Meet with the Clinical Anatomy Program Director to discuss the courses required by each student and discuss research project requirements, and receive TA allocations
- Meet with Course Co-ordinator(s) if selected as a TA and sign necessary contracts
Program Requirements

- Attend the annual ACB research day. Participate in the ACB research day once sufficient data has been collected.
- Attend the Annual ACB Murray Barr lecture
- Attend the Friday ACB Seminar Series (held most Fridays 12:30-1:30 in MSB282) plus PhD Public Lectures (80% attendance in each term is mandatory)

Degree Requirements

**Timeline:** Students may only begin a clinical anatomy MSc degree in September. Clinical anatomy students must complete their MSc degree within 20 months. No financial support is available beyond 20 months. The Clinical Anatomy program is not offered as part-time studies.

**Courses:** Required courses include: ANATCELL 9560, 9561, 9562, 9565, 9566, 9567L, 9569, 9569, 9580.

Other graduate level courses offered by ACB or other graduate programs are also acceptable. Students may enrol in additional courses at the discretion of the supervisory committee.

- MSc Clinical Anatomy students must maintain an 80% overall average in the program each year
- If a student has a course grade between 70-80% they will be asked to repeat the course in their second year (this does not prolong their program, just makes second year very busy)
- No supplement or remediation
- If a student has a course grade below 70% they will be required to withdraw from the program
- A student may not repeat more than one course. If they fail more than one course they will be required to withdraw from the program
- If a student fails (below 80%) their project course (9580), they will be required to withdraw from the program

**Teaching Assistantships:** One of the main outcomes of the MSc Clinical Anatomy program is proficiency as a university instructor. To develop teaching skills, students are required to serve as teaching assistants throughout the program.

**Milestones:** In addition to completing required course work, students are expected to fulfill four milestones by the end of their 20 month degree:

- Match with supervisor and project for 9580 by the beginning of December of their first year
- Complete their Surgery observation
- Complete a detailed dissection of a region assigned by the program director or other faculty members in ACB
• Deliver at least one didactic lecture in an undergraduate course to demonstrate an ability to effectively teach in a large class setting

Progress Expectations for Year 1
1. Complete courses ANATCEL 9560, 9561, 9565, 9566, 9567L, 9569, meeting the required grades
2. Match with supervisor and project for 9580 by the beginning of December of their first year
3. Demonstrate appropriate progress in project for 9580 as outlined in the course syllabus
4. Complete their Surgery observation

Progress Expectations for Year 2
1. Complete all required courses, meeting the required grades
2. Complete a detailed dissection of a region assigned by the program director or other faculty member in ACB
3. Deliver at least one didactic lecture in an undergraduate course to demonstrate an ability to effectively teach in a large class setting
MSc Requirements: Biological Research Stream

New Student Orientation

All new MSc students are required to attend both the ACB and Schulich Student Orientation sessions. Orientation begins the Tuesday following Labour Day. During Orientation students will:

- Receive orientation/information sessions from the Graduate Chair and Graduate Program Coordinator. Additional information will also be provided by:
  - The Society of Graduate Students (SOGS)
  - The Teaching Assistant (TA) Union
  - The School of Graduate and Postdoctoral Studies (SGPS)
  - Occupational Health and Safety
  - UWO Ethics Office
  - ACB Graduate Course Co-ordinators
  - Animal Care and Veterinary Services (ACVS)

- Identify and enrol in all necessary laboratory safety and ACVS courses.

- Meet with members of the graduate affairs committee (GAC) and supervisor, to:
  - Select courses
  - Select members of the supervisory committee
  - Sign (if applicable) TA contracts
  - Provide emergency contact information

- Meeting(s) with course co-ordinators should occur in the first week if selected as a TA.

Students starting in January or May will have a less formal orientation.

Program Requirements

- Attend the annual ACB Research Day. Participate in the ACB Research Day once sufficient data has been collected to permit a presentation. Note: Students may show work previously presented at another venue.

- Attend the Annual ACB Murray Barr lecture.

- Attend a local research day. Attend and participate (talk or poster) in a local research day once sufficient data has been collected to permit a presentation. Examples of local meetings include London Health Research Day, SONA, Western Research Forum, Oncology Research & Education Day and Psychiatry Research day. Note: Students may show work previously presented at another venue.

- Attend the Friday Seminar Series (held 12:30-1:30 most Fridays in MSB282) and PhD Public Lectures (80% attendance in each term is mandatory).
• Attend the 9520/9620 weekly seminars.
• Apply for eligible scholarships.

Degree Requirements

**Timeline:** Students may commence their MSc degree in January, May or September; however most students begin in September. MSc students are expected to complete their degree within 24 months (2 years) of their start time. Schulich, SGPS and most scholarship programs will not financially support students enrolled in an MSc program past 24 months. Mentors are not required to provide stipend support for students after 24 months of enrolment, although they are encouraged to do so if financially able.

**Courses:** ANATCELL9520 plus either ANATCELL9555 (Advanced Topics in Cell Biology) or ANATCELL9550 (Advanced Topics in Integrative Neuroscience) are required course offerings for MSc students. Students may enrol in additional courses offered by ACB or other programs at the discretion of their supervisor, supervisory committee, or as a condition of acceptance of a scholarship/award.

**Supervisory Committees:** All MSc research students must have a supervisory committee. Members of the supervisory committee have the expertise to help students successfully navigate their degrees. 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 supervisor(s), a representative from the GAC (appointed by the GAC) and at least one additional mentor with expertise in aspects of the proposed research project. Mentors can be selected from ACB or other programs/departments as long as the potential mentor is accredited and in good standing with SGPS. Mentor(s) must be selected in consultation with the student and are subject to approval by the GAC.

**Supervisory Committee Meetings Schedule:** Students should always feel free to ask for guidance or advice from members of the GAC and any member of the supervisory committee. 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. Required meetings should occur at least every six months, with a recommended timeline indicated below:

- **Meeting 1** – Before December 1st (Year 1) – Research proposal required.
- **Meeting 2** – Before June 1st (Year 1) – Progress report required.
- **Meeting 3** – Before December 1st (Year 2) – Progress report required.
- **Meeting 4** – Before June 1st (Year 2) for degree completion/May 1st for transition to the PhD program (Year 2) – Progress report required.

Please see section on **Research Proposals and Progress Reports** for additional instruction. Additional meetings may be held at the request of the student, supervisor or the supervisory committee. Typically, students will seek official permission to write their thesis or transition to the PhD program during **Meeting 4**.
Note: Schedule is based on September start-time, adjust appropriately for January or May start times. Meetings should typically be held every 4-6 months.

**Responsibilities of Supervisory Committee Participants**

*Mentor’s Responsibility* - Make initial contact with potential supervisory committee members to ask if they are willing to serve on the student’s committee. 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.

*Student’s Responsibility* – Once the committee is confirmed by the supervisor, the student is responsible for scheduling the supervisory committee meetings and ensuring they are completed on time as per the guidelines. The student is also responsible for supplying the Supervisory committee Evaluation Form with page one completed.

Bring the **Research Proposal Form** to the first meeting.

Bring the **Progress Report Form** to the second and subsequent meetings.

Bring the **Final Report Form** requesting permission to write the thesis to your final meeting.

Following completion of each meeting, the student is responsible for providing copies of the completed and signed evaluation forms to all members of the supervisory committee via email (i.e. scanned electronic PDF). The original form must be given to the Graduate Program Coordinator in the ACB departmental office (MSB443) along with an electronic copy of the Research Proposal/Progress Report. A Supervisory Committee Evaluation form must be completed for all meetings except for the new student orientation meeting in September (see *New Student Orientation* -page 14).

*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 results* - At the conclusion of the Supervisory Committee Meeting, the student will be asked to leave the room while the Supervisor(s), Committee Members, and GAC Representative discuss the student’s progress, as presented in the Progress Report and the oral presentation. Following this discussion, the Supervisory Committee will decide whether progress is deemed Satisfactory or Unsatisfactory. This decision will be based upon the opinion of the majority of the Supervisory Committee members, and will be indicated on the Progress Report form. Members of the Supervisory Committee will also indicate on the
Progress Report form areas of acceptable and unacceptable progress. In addition, specific recommendations will be noted to guide the student in the period until the next Supervisory Committee meeting. The Progress Report will be signed by the student and all the members of the Supervisory Committee. The GAC representative will explain the findings and the suggestions of the report to the student.

In the instance of an unsatisfactory evaluation by the Supervisory Committee, the report will be discussed at the next GAC meeting. The GAC representative from the Supervisory Committee will present the Progress Report and lead the discussion. Following an unsatisfactory Progress Report, a subsequent Supervisory Committee meeting must be held within six months, and will have two GAC members present.

Two consecutive unsatisfactory Supervisory Committee meetings will require the withdrawal of the student from the ACB Graduate Program.

**Progress Expectations for Year 1**

1. Complete required and optional courses with a minimum 80% average, by the end of Year 1.
2. Submit an abstract (first or co-author) to a provincial/national/international conference.
3. During the supervisory committee meetings:
   - Demonstrate an understanding of current literature relevant to the research of the student.
   - Demonstrate an understanding of the research questions related to the candidate’s project.
   - Demonstrate an understanding of- and proficiency with- the tools used to address the research question.

*Note:* The third requirement is assessed by the supervisory committee and documented in the student progress reports.

**Progress Expectations for Year 2**

1. Complete any additional optional course offerings with a minimum 80% average in each year.
2. Write, submit and successfully defend a research thesis. For a student to graduate there must be sufficient novel research data for the preparation of at least one manuscript to be submitted to a peer-reviewed journal.
3. During the supervisory committee meetings:
   - Demonstrate an understanding of the research project and how it fits into the field of research or the research problem.
ACB Graduate Student Handbook

- Demonstrate an ability to develop the research project beyond the scope initially provided by the mentor.

Note: The third requirement is assessed by the supervisory committee and documented in the student progress reports.

MSc to PhD Transfer

Transfer from the MSc to the PhD degree (if appropriate) must take place before the end of the 5th term of MSc enrolment. For most students this will mean prior to the end of April during the second year of the MSc. Students will typically seek permission to transfer from the MSc to the PhD program during the regularly scheduled advisory meeting (Meeting 4) although a special meeting can be arranged if necessary. The student should notify the members of the advisory committee of their intent to transfer before the meeting; preferably when the Progress Report is sent to committee members. The composition of the advisory committee for this meeting will be the same as the previous advisory meetings, except one additional member of the GAC will be present.

In preparation for the meeting, the student should prepare the typical progress report (see Research Proposals and Progress Reports) summarizing the result obtained thus far, but also include the overall hypothesis, rationale and individual aims for the PhD project. They must bring the Transfer Report Form to the meeting. To successfully transfer from the MSc to the PhD program, a student must demonstrate to the committee that all of the MSc requirements outlined in the student handbook have been fulfilled with the exception of writing and defending the thesis. The student must also explain how the project will be expanded beyond the limitations of an MSc and demonstrate a suitable understanding of the proposed project. Finally, there must be enthusiasm and commitment for the transfer on the part of the student, supervisor and committee.
PhD Requirements (Excluding Direct-Entry and MD/PhD)

New Student Orientation

All PhD students new to ACB and starting the program in September are required to attend both the ACB and Schulich Student Orientation sessions. Orientation begins the Tuesday following Labour Day. During orientation students will:

- Receive orientation/information sessions from the Graduate Chair and Graduate Program Coordinator. Additional information will also be provided by:
  - The Society of Graduate Students (SOGS)
  - The Teaching Assistant (TA) Union
  - The School of Graduate and Postdoctoral Studies (SGPS)
  - Occupational Health and Safety
  - UWO Ethics Office
  - ACB Graduate Course Co-ordinators
  - Animal Care and Veterinary Services (ACVS)
- Identify and enrol in all necessary laboratory safety and ACVS courses.
- Meet with members of the graduate affairs committee (GAC), along with the supervisor, to:
  - Select courses (if applicable)
  - Select members of the supervisory committee
  - Sign (if applicable) TA contracts
  - Provide emergency contact information
- Meeting(s) with course co-ordinators should occur in the first week if selected as a TA.

Students starting in January or May will have a less formal orientation.

Program Requirements

- Attend the annual ACB Research Day. Participate in the ACB Research Day once sufficient data has been collected to permit a presentation. Note: Students may show work previously presented at another venue.
- Attend the Annual ACB Murray Barr lecture.
- Attend a local research day. Attend and participate (talk or poster) in a local research day once sufficient data has been collected to permit a presentation. Examples of local meetings include London Research Day, SONA, Western Research Forum, Oncology Research & Education day and Psychiatry Research day. Note: Students may show work previously presented at another venue.
- Attend the Friday ACB Seminar Series (held most Fridays 12:30-1:30 pm in MSB282) plus PhD Public Lectures (80% attendance in each term is mandatory).
• Apply for eligible scholarships.

Degree Requirements

**Timeline:** Students may commence their PhD degree in January, May or September; however most students begin in September. PhD students are expected to complete their degree within 48 months (4 years) if they already have an MSc degree or 60 months (5 years) if they transfer from an MSc into the PhD program. Note that the 60 months includes both the time in the MSc and PhD program. Schulich, SGPS and most scholarship programs will not financially support students enrolled in a PhD program past the specified time limits. Mentors are not required to provide stipend support for students after 48 or 60 months of enrolment (respectively), although they are encouraged to do so if financially able. If circumstances arise that require a student to remain in the PhD program longer than 48/60 months, the student must seek permission from the GAC to remain enrolled.

**Courses:** All PhD students are requires to complete the PhD Comprehensive Exam, which is offered as the ANATCELL9605. Students that transfer from the MSc to the PhD program will have completed ANATCELL9520 and are not required to enrol in ANATCELL9620 or be required to attend additional ANATCELL9620 seminars, nor do they have to take ANATCELL 9650 or 9655, or 9566 (for Clinical Anatomy). Students that have completed an MSc or equivalent degree elsewhere and enrol in the ACB PhD program must complete ANATCELL9620 plus ANATCELL9650 or 9655 (as appropriate), unless they can demonstrate that previous graduate course work have provided them with equivalent skill sets provided by these courses. If this is the case then students may be exempt from further course work. Students may enrol in additional courses at the discretion of the supervisor, supervisory committee, or as condition of a scholarship/award.

**Supervisory Committees:** All PhD students must have a supervisory committee. Members of the supervisory committee have the expertise to help students successfully navigate their degrees. 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 supervisor(s), a representative from the GAC (appointed by the GAC) and at least two additional mentors with expertise in aspects of the proposed research project. Mentors can be selected from ACB or other programs/departments as long as the potential mentor is accredited and in good standing with SGPS. Mentor(s) must be selected in consultation with the student and are subject to approval by the GAC.

**Supervisory Committee Meetings Schedule:** Students should always feel free to ask for guidance or advice from GAC members and any member of the supervisory committee. 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. Required meetings are indicated below:

- **Meeting 1** – Before December 1st (Year 1) – Research proposal required.
- **Meeting 2** – Before June 1st (Year 1) – Progress report required.
- **Meeting 3** – Before December 1st (Year 2) – Progress report required.
- **Meeting 4** – Before June 1st (Year 2) – Progress report required.
Meeting 5 – Before December 1st (Year 3) – Progress report required.
Meeting 6* – Before June 1st (Year 3) – Progress report required.
Meeting 7 – Before December 1st (Year 4) – Progress report required.
Meeting 8* – Before June 1st (Year 4) – Progress report required.

Please see section on Research Proposals and Progress Reports for additional instruction. Additional meetings may be held at the request of the student or the supervisory committee. Typically, students will seek official permission to write their thesis during Meeting 6 or Meeting 8 depending on method of entry into the PhD program.

Note: Schedule is based on September start-time, adjust appropriately for January or May start times. Meetings should typically be held every 6 months.

Responsibilities of Supervisory Committee Participants

Mentor’s Responsibility - Make initial contact with potential supervisory committee members to ask if they are willing to serve on the student’s committee. 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.

Student’s Responsibility – Once the committee is confirmed, the student is responsible for scheduling the supervisory committee meetings and ensuring they are completed on time as per the guidelines. The student is also responsible for supplying the Supervisory committee Evaluation Form with page one completed.

Bring the Research Proposal Form to the first meeting.

Bring the Progress Report Form to the second and subsequent meetings.

Bring the Final Report Form requesting permission to write the thesis to your final meeting.

Following completion of each meeting, the student is responsible for providing copies of the completed and signed evaluation forms to all members of the supervisory committee via email (i.e. scanned electronic PDF). The original form must be given to the Graduate Program Coordinator in the ACB departmental office (MSB443) along with an electronic copy of the Research Proposal/Progress Report. A Supervisory Committee Evaluation form must be completed for all meetings except for the new student meeting in September (see New Student Orientation-page 19).

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 question 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 results_ - At the conclusion of the Supervisory Committee Meeting, the student will be asked to leave the room while the Supervisor(s), Committee Members, and GAC Representative discuss the student’s progress, as presented in the Progress Report and the oral presentation. Following this discussion, the Supervisory Committee will decide whether progress is deemed Satisfactory or Unsatisfactory. This decision will be based upon the opinion of the majority of the Supervisory Committee members, and will be indicated on the Progress Report form. Members of the Supervisory Committee will also indicate on the Progress Report form areas of acceptable and unacceptable progress. In addition, specific recommendations will be noted to guide the student in the period until the next Supervisory Committee meeting. The Progress Report will be signed by the student and all the members of the Supervisory Committee. The GAC representative will explain the findings and the suggestions of the report to the student.

In the instance of an unsatisfactory evaluation by the Supervisory Committee, the report will be discussed at the next GAC meeting. The GAC representative from the Supervisory Committee will present the Progress Report and lead the discussion. Following an unsatisfactory Progress Report, a subsequent Supervisory Committee meeting must be held within six months, and will have two GAC members present.

Two consecutive unsatisfactory Supervisory Committee meetings will require the withdrawal of the student from the ACB Graduate Program.

**) Requirements for Students Entering the PhD Program after Completing an MSc Degree**

**Progress Expectations for Year 1**

- Complete required and optional courses with a minimum 80% average by the end of year 1.
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- During the supervisory committee meetings:
  - Demonstrate an understanding of current literature relevant to the research of the student.
  - Demonstrate an understanding of the research questions related to the candidate’s project.
  - Demonstrate an understanding of- and proficiency with- the tools used to address the research question.
- Successfully complete the PhD comprehensive in the summer term (Term 3). Please see [Comprehensive Course Outline Section](#).

**Progress Expectations for Year 2**
Progress Expectations for Year 3

- Complete any additional optional course offerings with a minimum 80% average in each year.
- Complete preparation of a second manuscript (first author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- Provide a departmental seminar.
- During the supervisory committee meetings:
  - Demonstrate an understanding of current literature relevant to the research of the student.
  - Demonstrate an understanding of the research questions related to the candidate’s project.
  - Demonstrate an understanding of- and proficiency with- the tools used to address the research question.

Progress Expectations for Year 4

- Complete preparation of a third manuscript (first author).
- Have published a minimum of 2 manuscripts in peer-reviewed journals.
- Complete thesis preparation and defence.

Requirements for Students transferring from the MSc to PhD program

Progress Expectations for Year 1

- Complete required and optional courses with a minimum 80% average by the end of year 1.
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- During the supervisory committee meetings:
  - Demonstrate an understanding of current literature relevant to the research of the student.
  - Demonstrate an understanding of the research questions related to the candidate’s project.
  - Demonstrate an understanding of- and proficiency with- the tools used to address the research question.
Progress Expectations for Year 2

- Complete any additional optional course offerings with a minimum 80% average in each year.
- Complete preparation and submission of a 2nd manuscript (first or co-author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- Provide a departmental seminar.
- During the supervisory committee meetings:
  - Demonstrate an understanding of the research project and how it fits into the field of research or the research problem.
  - Demonstrate an ability to develop the research project beyond the scope initially provided by the mentor.

Progress Expectations for Year 3

- Complete preparation of a 3rd manuscript (first author).
- Have published a minimum of 2 manuscripts in peer-reviewed journals
- Complete thesis preparation and defence.
- During the supervisory committee meetings:
  - Continue to demonstrate scientific proficiency and evidence of independent and critical thinking.

Direct-Entry PhD

Requirements for Direct Entry PhD Students

New Student Orientation

All new direct-entry PhD students that start program in September are required to attend both the ACB and Schulich Student Orientation sessions. Orientation begins the Tuesday following Labour Day. During orientation students will:

- Receive orientation/information sessions from the Graduate Chair and Graduate Program Coordinator. Additional information will also be provided by:
  - The Society of Graduate Students (SOGS)
  - The Teaching Assistant (TA) Union
  - The School of Graduate and Postdoctoral Studies (SGPS)
  - Occupational Health and Safety
ACB Graduate Student Handbook

- UWO Ethics Office
- ACB Graduate Course Co-ordinators
- Animal Care and Veterinary Services (ACVS)

- Identify and enrol in all necessary laboratory safety and ACVS courses.
- Meet with members of the graduate affairs committee (GAC), along with the supervisor, to:
  - Select courses
  - Select members of the supervisory committee
  - Sign (if applicable) TA contracts
  - Provide emergency contact information
- Meeting(s) with course co-ordinators should occur in the first week if selected as a TA.

Students starting in January or May will have a less formal orientation.

Program Requirements

- Attend the annual ACB research day. Participate in the ACB research day once sufficient data has been collected to permit a presentation. Note: Students may show work previously presented at another venue.
- Attend the Annual ACB Murray Barr lecture.
- Attend a local research day. Attend and participate (talk or poster) in a local research day once sufficient data has been collected to permit a presentation. Examples of local meetings include London Research Day, SONA, Western Research Forum, Oncology Research & Education day and Psychiatry Research day. Note: Students may show work previously presented at another venue.
- Attend the Friday ACB Seminar Series (held most Friday 12:30-1:30 pm in MSB282) plus PhD Public Lectures (80% attendance in each term is mandatory).
- Apply for eligible scholarships.

Degree Requirements

**Expectations:** Students with an excellent academic standing (85% overall average in the last 10 course credits) and demonstrated research experience may be accepted directly into the PhD program without prior enrolment or completion of an MSc degree. Consequently, it is expected that direct entry PhD students will excel in the program and develop into mature PhD candidates at an accelerated pace.

**Timeline:** Students may commence their PhD degree in January, May or September; however most students begin in September. Direct-entry PhD students are expected to complete their degree within 60 months (5 years) of their start time. Schulich, SGPS and most scholarship programs will not financially support students enrolled in a PhD program past 60 months. Mentors are not required to provide stipend support for students after 60 months of enrolment, although they are encouraged to do so if financially able. If circumstances arise that require a
student to remain in the PhD program longer than 60 months, the student must seek permission from the GAC to remain enrolled.

Courses: ANATCELL9605, ANATCELL9620 plus either ANATCELL9655 (Advanced Topics in Cell Biology) or ANATCELL9650 (Advanced Topics in Integrative Neuroscience) are required course offerings for Direct Entry PhD students. Students will enrol in ANATCELL 9620 in their first year and attend ANATCELL 9620 seminars in their second year. Students may enrol in additional courses offered by ACB or other programs at the discretion of the supervisor, supervisory committee, or as a condition of acceptance of a scholarship/award.

Supervisory Committees: All PhD students must have a supervisory committee. Members of the supervisory committee have the expertise to help students successfully navigate their degrees. 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 supervisor(s), a representative from the GAC (appointed by the GAC) and at least two additional mentors with expertise in aspects of the proposed research project. Mentors can be selected from ACB or other programs/departments as long as the potential mentor is accredited and in good standing with SGPS. Mentor(s) must be selected in consultation with the student and are subject to approval by the GAC.

Supervisory Committee Meetings Schedule: Students should always feel free to ask for guidance or advice from GAC members and any member of the supervisory committee. 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. Required meetings are indicated below:

Meeting 1 – Before December 1st (Year 1) – Research proposal required.
Meeting 2 – Before June 1st (Year 1) – Progress report required.
Meeting 3 – Before December 1st (Year 2) – Progress report required.
Meeting 4 – Before June 1st (Year 2) – Progress report required.
Meeting 5 – Before December 1st (Year 3) – Progress report required.
Meeting 6 – Before June 1st (Year 3) – Progress report required.
Meeting 7 – Before December 1st (Year 4) – Progress report required.
Meeting 8 – Before June 1st (Year 4) – Progress report required.
Meeting 9 – Before December 1st (Year 5) – Progress report required.
Meeting 10* – Before June 1st (Year 5) – Progress report required.

Please see section on Research Proposals and Progress Reports for additional instruction.

Additional meetings may be held at the request of the student or the supervisory committee. Students will seek official permission to write their thesis during the final supervisory committee meeting (typically Meeting 10).

Note: Schedule is based on September start-time, adjust appropriately for January or May start times. Meetings are typically held every 6 months.
Responsibilities of Supervisory Committee Participants

**Mentor’s Responsibility** - Make initial contact with potential supervisory committee members to ask if they are willing to serve on the student’s committee. 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.

**Student’s Responsibility** – Once the committee is confirmed, the student is responsible for scheduling the supervisory committee meetings and ensuring they are completed on time as per the guidelines. The student is also responsible for supplying the Supervisory committee Evaluation Form with page one completed.

Bring the **Research Proposal Form** to the first meeting.

Bring the **Progress Report Form** to the second and subsequent meetings.

Bring the **Final Report Form** requesting permission to write the thesis to your final meeting.

Following completion of each meeting, the student is responsible for providing copies of the completed and signed evaluation forms to all members of the supervisory committee via email (i.e. scanned electronic PDF). The original form must be given to the Graduate Program Coordinator in the ACB departmental office (MSB443) along with an electronic or printed copy of the Research Proposal/Progress Report. A Supervisory Committee Evaluation form must be completed for all meetings except for the new student meeting in September (see **New Student Orientation**-page 25).

**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 question 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 results** - At the conclusion of the Supervisory Committee Meeting, the student will be asked to leave the room while the Supervisor(s), Committee Members, and GAC Representative discuss the student’s progress, as presented in the Progress Report and the oral presentation. Following this discussion, the Supervisory Committee will decide whether progress is deemed Satisfactory or Unsatisfactory. This decision will be based upon the opinion of the majority of the Supervisory Committee members, and will be indicated on the Progress Report form. Members of the Supervisory Committee will also indicate on the Progress Report form areas of acceptable and unacceptable progress. In addition, specific recommendations will be noted to guide the student in the period until the next Supervisory Committee meeting. The Progress Report will be signed by the student and all the members of
the Supervisory Committee. The GAC representative will explain the findings and the suggestions of the report to the student.

In the instance of an unsatisfactory evaluation by the Supervisory Committee, the report will be discussed at the next GAC meeting. The GAC representative from the Supervisory Committee will present the Progress Report and lead the discussion. Following an unsatisfactory Progress Report, a subsequent Supervisory Committee meeting must be held within six months, and will have two GAC members present.

Two consecutive unsatisfactory Supervisory Committee meetings will require the withdrawal of the student from the ACB Graduate Program.

Progress Expectations for Year 1

- Complete required and optional courses with a minimum 80% average by the end of year 1.
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- During the supervisory committee meetings:
  - Demonstrate an understanding of current literature relevant to the research of the student.
  - Demonstrate an understanding of the research questions related to the candidate’s project.
  - Demonstrate an understanding of- and proficiency with- the tools used to address the research question.

Progress Expectations for Year 2

- Successfully complete the PhD comprehensive in the summer term (Term 6). Please see Comprehensive Course Outline Section.
- Complete any additional optional course offerings with a minimum 80% average each year.
- Complete preparation and submission of a first manuscript based primarily on the student’s research.
- During the supervisory committee meetings:
  - Demonstrate an understanding of the research project and how it fits into the field of research or the research problem.
  - Demonstrate an ability to develop the research project beyond the scope initially provided by the mentor.

Progress Expectations for Year 3

- Complete any additional optional course offerings with a minimum 80% average each year.
- Complete preparation of a second manuscript (first author).
• Submit an abstract (first or co-author) to a provincial/national/international conference.
• Provide a departmental seminar.
• During the supervisory committee meetings:
  o Continue to demonstrate scientific proficiency and evidence of independent and critical thinking.

Progress Expectations for Year 4

• Complete any additional optional course offerings with a minimum 80% average each year.
• Complete preparation of a third manuscript (first author).
• Submit an abstract (first or co-author) to a provincial/national/international conference.
• During the supervisory committee meetings:
  o Continue to demonstrate scientific proficiency and evidence of independent and critical thinking.

Progress Expectations for Year 5

• Complete preparation of a fourth manuscript (first author).
• Have published a minimum of 3 manuscripts in peer-reviewed journals.
• Complete thesis preparation and defence.
MD/PhD

Requirements for MD/PhD Students

New Student Orientation

All new MD/PhD students that start the program in September are required to attend both the ACB and Schulich Student Orientation sessions the year they begin their graduate training. Orientation begins the Tuesday following Labour Day. During orientation students will:

- Receive orientation/information sessions from the Graduate Chair and Graduate Program Coordinator. Additional information will also be provided by:
  - The Society of Graduate Students (SOGS)
  - The Teaching Assistant (TA) Union
  - The School of Graduate and Postdoctoral Studies (SGPS)
  - Occupational Health and Safety
  - UWO Ethics Office
  - ACB Graduate Course Co-ordinators
  - Animal Care and Veterinary Services (ACVS)
- Identify and enrol in all necessary laboratory safety and ACVS courses.
- Meet with members of the graduate affairs committee (GAC), along with the supervisor, to:
  - Select courses
  - Select members of the supervisory committee
  - Sign (if applicable) TA contracts
  - Provide emergency contact information

Students starting in January or May will have a less formal orientation.

Program Requirements
ACB Graduate Student Handbook

• Attend the annual ACB research day. Participate in the ACB research day once sufficient data has been collected to permit a presentation. Note: Students may show work previously presented at another venue.

• Attend the Annual ACB Murray Barr lecture.

• Attend a local research day. Attend and participate (talk or poster) in a local research day once sufficient data has been collected to permit a presentation. Examples of local meetings include London Research Day, SONA, Western Research Forum, Oncology Research & Education day and Psychiatry Research day. Note: Students may show work previously presented at another venue.

• Attend the Friday ACB Seminar Series (held most Fridays 12:30-1:30 pm in MSB282) plus PhD Public Lectures (50% attendance in each term is mandatory).

• Apply for eligible scholarships.

Degree Requirements

**Expectations:** Students that have been accepted to the MD/PhD program are eligible for direct-entry into the ACB PhD program.

**Timeline:** Students may commence their PhD degree in January, May or September; however most students begin in September. MD/PhD students are expected to complete their degree within 36 months (3 years) of their start time. If circumstances arise that require a student to remain in the PhD program longer than 36 months, the student must seek advice from the MD/PhD mentoring committee.

**Courses:** ANATCELL9605, ANATCELL9620 plus either ANATCELL9655 (Advanced Topics in Cell Biology) or ANATCELL9650 (Advanced Topics in Integrative Neuroscience) are required course offerings for MD/PhD students. Students may enrol in additional courses offered by ACB or other programs at the discretion of the supervisor, supervisory committee, or as a condition of acceptance of a scholarship/award. MD/PhD students will be expected to take ANATCELL9620 but will not be expected to attend the classes in year 2 like other research students.

**Supervisory Committees:** All MD/PhD students must have a supervisory committee. Members of the supervisory committee have the expertise to help students successfully navigate their degrees. 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 supervisor(s), a representative from the GAC (appointed by the GAC) and at least two additional mentors with expertise in aspects of the proposed research project. Mentors can be selected from ACB or other programs/departments as long as the potential mentor is accredited and in good standing with SGPS. Mentor(s) must be selected in consultation with the student and are subject to approval by the GAC.

**Supervisory Committee Meetings Schedule:** Students should always feel free to ask for guidance or advice from GAC members and any member of the supervisory committee.
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. Required meetings are indicated below:

- **Meeting 1** – Before December 1st (Year 1) – Research proposal required.
- **Meeting 2** – Before June 1st (Year 1) – Progress report required.
- **Meeting 3** – Before December 1st (Year 2) – Progress report required.
- **Meeting 4** – Before June 1st (Year 2) – Progress report required.
- **Meeting 5** – Before December 1st (Year 3) – Progress report required.
- **Meeting 6** – Before June 1st (Year 3) – Progress report required.

Please see section on [Research Proposals and Progress Reports](#) for additional instruction. Additional meetings may be held at the request of the student or the supervisory committee. Students will seek official permission to write their thesis during the final supervisory committee meeting (typically **Meeting 6**).

Note: Schedule is based on September start-time, adjust appropriately for January or May start times. Meetings typically occur every 6 months.

**Responsibilities of Supervisory Committee Participants**

**Mentor’s Responsibility** - Make initial contact with potential supervisory committee members to ask if they are willing to serve on the student’s committee. 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.

**Student’s Responsibility** – Once the committee is confirmed, the student is responsible for scheduling the supervisory committee meetings and ensuring they are completed on time as per the guidelines. The student is also responsible for supplying the Supervisory committee Evaluation Form with page one completed.

Bring the [Research Proposal Form](#) to the first meeting.

Bring the [Progress Report Form](#) to the second and subsequent meetings.

Bring the [Final Report Form](#) requesting permission to write the thesis to your final meeting.

Following completion of each meeting, the student is responsible for providing copies of the completed and signed evaluation forms to all members of the supervisory committee via email (i.e. scanned electronic PDF). The original Report form must be given to the Graduate Program Coordinator in the ACB departmental office (MSB443) along with an electronic copy of the Research Proposal/Progress Report. A Supervisory Committee Evaluation form must be completed for all meetings except for the new student meeting in September (see [New Student Orientation](#)-page 31).
**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 question 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 results** - At the conclusion of the Supervisory Committee Meeting, the student will be asked to leave the room while the Supervisor(s), Committee Members, and GAC Representative discuss the student’s progress, as presented in the Progress Report and the oral presentation. Following this discussion, the Supervisory Committee will decide whether progress is deemed Satisfactory or Unsatisfactory. This decision will be based upon the opinion of the majority of the Supervisory Committee members, and will be indicated on the Progress Report form. Members of the Supervisory Committee will also indicate on the Progress Report form areas of acceptable and unacceptable progress. In addition, specific recommendations will be noted to guide the student in the period until the next Supervisory Committee meeting. The Progress Report will be signed by the student and all the members of the Supervisory Committee. The GAC representative will explain the findings and the suggestions of the report to the student.

In the instance of an unsatisfactory evaluation by the Supervisory Committee, the report will be discussed at the next GAC meeting. The GAC representative from the Supervisory Committee will present the Progress Report and lead the discussion. Following an unsatisfactory Progress Report, a subsequent Supervisory Committee meeting must be held within six months, and will have two GAC members present.

Two consecutive unsatisfactory Supervisory Committee meetings will require the withdrawal of the student from the ACB Graduate Program.

**Progress Expectations for Year 1**

- Complete required and optional courses with a minimum 80% average by the end of year 1.
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- During the supervisory committee meetings:
  - Demonstrate an understanding of current literature relevant to the research of the student.
  - Demonstrate an understanding of the research questions related to the candidate’s project.
  - Demonstrate an understanding of- and proficiency with- the tools used to address the research question.
Progress Expectations for Year 2

- Successfully complete the PhD comprehensive in the summer term (Term 6). Please see Comprehensive Course Outline Section.
- Complete any additional optional course offerings with a minimum 80% average each year.
- Complete preparation and submission of a first manuscript based primarily on the student’s research.
- During the supervisory committee meetings:
  - Demonstrate an understanding of the research project and how it fits into the field of research or the research problem.
  - Demonstrate an ability to develop the research project beyond the scope initially provided by the mentor.

Progress Expectations for Year 3

- Complete any additional optional course offerings with a minimum 80% average each year.
- Complete preparation of a second manuscript (first author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- Provide a departmental seminar.
- Complete thesis preparation and defence with sufficient novel data to publish three manuscripts (first author).
- During the supervisory committee meetings:
  - Continue to demonstrate scientific proficiency and evidence of independent and critical thinking.
Research Progress Reports and Proposals

Overview: Supervisory committee reports are required for all supervisory committee meetings. They provide members of the committee with an update of the student and a starting point for discussion during the meeting. Committee reports also help the student focus their thoughts/research and present the project in a clear and concise manner. Supervisory reports should be prepared by the student with feedback from the supervisor. The completed report should be provided to the supervisor 10 business days prior to the meeting for comment. The report must be provided to members of the supervisory committee 5 business days prior to the meeting. Committee members must be provided a single electronic PDF file containing the completed report. A copy must also be provided to the Graduate Program Coordinator.

The reports consist of two parts; A summary of student’s academic activities (or a copy of the students up-to-date CV) and the research proposal or progress report. The goal is to prepare the initial document for the first supervisory committee meeting and then revise and update the document with changes and new information for subsequent supervisory committee meetings. It is not necessary (and in fact counterproductive) to prepare a fresh document from scratch each time unless there is a fundamental change in the research project. There is no restriction on the length of the report but all written materials should be concise and polished. Figures should be of near publication quality (i.e. properly labelled, accompanied by a figure legend etc.).

Summary of Student’s Academic Activities or CV – The goal of the activity summary is to keep the supervisory committee informed concerning the students activities.

Research Proposal/Progress Report – A research proposal must be prepared by the student for the first meeting. Thereafter, the student will prepare a progress report. The progress report will develop and grow as the student progresses through the program. By the final supervisory committee meeting the student should have a well thought out, polished document to serve as the basis for the thesis.

Research Proposal (Meeting #1) – Proposal + Summary of Activities.
1. Summary of Student’s academic activities/CV should include:
   - Courses currently enrolled/to be taken/remaining
   - Scholarships (held and to be applied)
   - Teaching Assistantship(s) - please indicate time commitment
   - Publications (if prior research has produced any abstracts or contributions to published or submitted papers).
   - Other Contributions (committee membership etc).

2. Research Proposal
   - Background of Project - Provide a description of key findings leading to the creation of the 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 for each objective. Using point form, indicate the tasks to be completed for each objective including relevant methodology.

**Progress Report (Meeting #2)** – Research Proposal + Progress + Summary of Activities.
1. Update the Summary of Student’s academic activities
2. Progress Report
   I. Update the Research Proposal.
   II. Add Progress obtained to date.
   • **Results** - Indicate progress on each of the objectives outlined in the research proposal. Write a brief description of the results obtained and provided figures with figure legends for data generated.
   • **Discussion** - State the conclusions that can be made from the work accomplished to date. Briefly explain how the results contribute to the overall problem to be studied (‘Big Picture’).

**Progress Report (Subsequent Meetings)** – Research Proposal + Progress + Summary of Activities.
1. Update the Summary of Student’s academic activities
2. Progress Report
   I. Update the Research Proposal
   II. Update Progress

1. Update the Summary of Student’s academic activities
2. Update Progress Report
   I. Update the Research Proposal
   II. Update Progress
3. Add Thesis Outline

** manuscripts in preparation or submitted and abstracts may be appended as separate documents for consideration by the committee
PhD Comprehensive Exam (ANATCELL9605)

Comprehensive Course (ANATCELL9605)

Purpose
The purpose of the Comprehensive Exam is to evaluate the student’s ability to conduct research at the level of a PhD student. Thus, the student needs to show the ability to form hypotheses, design studies to test the hypotheses, and anticipate expected outcomes and caveats of these experiments, independently, without guidance from the supervisor or peers.

This is an evaluative course. It is expected that students learn these skills by interaction with their supervisor(s), their research colleagues, and their peers.

Format and Writing Process
To test the student’s abilities, the student will write a CIHR-style, or SSHRC-style (Clinical Anatomy) grant proposal as an independent exercise (research module and summary page only). The grant must follow specifications outlined on the CIHR website and not exceed 11 written pages. Additional pages are permitted for references, tables and figures. Only the actual proposal and summary page are required, additional forms from the research module, CV module and budget module are not needed. The range of topics is unrestricted except the grant must not be the same as the research of the student and must be an original idea. The exception is MD/PhD students who can write the grant on their own thesis topic. The topic is subject to approval by the GAC.

The grant is to be written by the student as an independent exercise. However, the student will consult with Mentor(s) during the initial stages. The Mentor(s) will provide feedback as to the scope of the research and the specific aims during the preparation of the initial summary page only. The Mentor(s) should not edit (or write) the summary page, but rather provide feedback concerning the hypotheses and proposed experiments, and may point the student in the right direction to think about expected outcomes and potential caveats of the experiments. Typically, the student will have several meetings and/or email exchanges with the Mentor(s) over the course of several weeks. Once the summary page is submitted, the Mentor(s) will no longer be permitted to provide feedback on the scope of the research.

Evaluation and Examination Process
1. Mentors: One or more Mentors may be selected by the student in consultation with the supervisor and may include the supervisor but not the Examiners.

2. Examiners: The Examining Committee will consist of one GAC member with appropriate expertise in cell biology, neurobiology, and/or clinical anatomy; one member of the ACB graduate program; and one extra-departmental examiner. The student will select two faculty members from the ACB graduate program listed in order of preference and two extra-departmental faculty members listed in order of preference that could be approached to serve as Examiners for the
comprehensive exam. The GAC examiner will be assigned. The GAC will approach Examiners in the order listed by the student. However, there may be instances where the student will need to provide additional names. The student may solicit the advice of the Mentor(s) and/or supervisor when considering Examiners. The final Examining Committee is subject to approval by the GAC, and a member of the GAC will usually chair the oral exam.

3. **Written Component:** After the submission of the summary page, the student will have 4 weeks to write and submit the full written grant proposal. The student must submit an electronic copy of the full grant proposal to the Graduate Program Coordinator and the Associate Chair for Graduate Studies. Examiners may request paper copies as needed.

The grant will be evaluated by the Examiners within 1.5 weeks of submission. For the evaluation of the written component, emphasis will be placed on the ideas, hypotheses, experimental designs and discussion of outcomes and caveats.

The proposal will be rated as either “Acceptable”, “Acceptable with Minor Revisions”, or “In Need of Major Revision”. All three examiners must find the grant proposal “Acceptable” and/or “Acceptable with Minor Revisions” to proceed to the oral exam. If the grant is deemed “In Need of Major Revision”, the student will receive written feedback and will have 3 weeks to correct the deficiencies in the proposal and resubmit. Failure to obtain an “Acceptable” or “Acceptable with Minor Revisions” rating following resubmission will result in removal of the student from the PhD program.

4. **Oral Exam:** Once the written proposal has been accepted, an oral exam focused on the grant proposal will take place 2 weeks after the date of initial grant submission. The oral exam will follow the traditional MSc exam format; a short 15 minute presentation followed by 2 rounds of questioning (usually 15 minutes & 5-10 minutes, respectively) from the Examiners.

The primary goal of the oral exam is test the student’s critical thinking skills. Questions can be related to any of the topics included in the grant and will be designed to test the students ability to “think like a scientist”. In addition, students may also be tested on general background knowledge related to the discipline of the grant and technical considerations within the proposal. The supervisor is encouraged to be present during the examination but may not speak or participate in the examination or evaluation process.

After the oral examination, the Examiners will deliberate in the absence of the student and provide a grade of Pass or Fail by majority consensus. Oral and/or written feedback will also be provided to the student and shared with the supervisor.

If the student fails the oral exam, a second oral exam will be scheduled 3 weeks later. The second oral exam will again focus on the approved Research Proposal but the questions may change. Failure to pass the supplementary exam will result in removal from the PhD program.

5. **Plagiarism:** The grant is to be written by the student, in their own words. All grants will be screened using online software such as [www.turnitin.com](http://www.turnitin.com) to detect plagiarism. The online software is accessible to both faculty and students for analysis. Students that are unclear about the precise definition of plagiarism should discuss the matter with the Associate Chair for Graduate Studies or
a member of the GAC. Some information is available from the Faculty of Graduate Studies at http://grad.uwo.ca/section_ten.htm. Plagiarism is an extremely serious academic offence that will result in the failure of the ANATCELL9605 course and the dismissal from the PhD program.

**Timeline**

Students are expected to devote the majority of their time to preparing for and completing the comprehensive exam during the months of May and June (see below). Supervisors are asked to respect this and should not expect the student to spend much (if any) time on experiments during this time period. Students with research activities (i.e. presentation at a scientific meeting) that conflict with the Comprehensive timeline should consult the Associate Chair for Graduate Studies prior to May to arrange an alternate timeline.
Additional Information and Program Policies

Teaching Assistants and Part-Time Jobs

The Anatomy & Cell Biology (ACB) graduate program views teaching as an important component of graduate education. Consequently, ACB encourages students in the program to
accept Teaching Assistant positions (TAs) offered through ACB or other departments at the University. However, students are cautioned that serving as TA can be time consuming and it is strongly recommended that students not accept more than a half TA (5 hours/week for two terms or 10 hours/week for one term). It is also strongly recommended that students consult their supervisors prior to accepting TA positions.

It should be noted that teaching is an essential component of the Clinical Anatomy MSc and integrated directly into the curriculum. A half TA or equivalent is mandatory for students enrolled in the program and will be assigned by the Clinical Anatomy faculty. On occasion, additional teaching may be offered to a student with appropriate compensation as defined by the TA contract up to a maximum of a full TA.

University policy recommends that students only work a maximum of 10 hours/week outside of their degree requirements. TA positions are also considered a part-time job by the University and count towards the 10 hours/week limit. It is very important to understand that accepting a part-time job, including a TA position, does not mean that a student can devote less time to your graduate work in order to make time for a part-time job or TA position.

*For specific details concerning TA rules and regulations, refer to the TA Collective Agreement.*

**Holidays**

Students enrolled in the Anatomy & Cell Biology graduate program are entitled to annual holidays without interruption to their stipends. Specifically, students are entitled to 15 business days/year vacation time in addition to statutory holidays. Unlike their undergraduate counterparts, graduate students do not get autumn and spring breaks or summers off. If a student wishes to leave during the autumn or spring breaks or have time off in the summer, the time away from the University subtracts from the 15 day holiday total. Likewise, during the winter holiday season, graduate students are entitled to time off during the official University holiday closure (typically December 24th to the first week of January). Days off before and/or after the official University closure period are subtracted from the 15 days of holiday time.

Should the University officially close for any reason (i.e. snow day), students will receive a day(s) off without affecting their holiday time. Likewise, students may take additional time off without affecting their holiday time for special circumstances (attending conferences, recognized religious holidays etc). In all cases, time away from the laboratory or program should be discussed with the supervisor (Biological Research and all PhD students) and/or program director (Clinical Anatomy MSc students).

If it is essential to take holidays during a time that would interfere with the student’s obligations (i.e. TA responsibilities, long-term research studies or experiments), the onus is on the student to make suitable arrangements to cover their absence. If circumstances arise that require additional time away from the University beyond the 15 business days, the student must seek permission from their supervisor (Biological Research and all PhD students) or program director (Clinical Anatomy MSc students). If substantial time away from the University is necessary (months), the
student must consult with Associate Chair for Graduate Studies and take an official leave of absence from the program.

Health and Wellness

As part of a successful graduate student experience at Western, we encourage students to make their health and wellness a priority. Western provides several on campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your graduate degree. For example, to support physical activity, all students, as part of their registration, receive membership in Western’s Campus Recreation Centre. Numerous cultural events are offered throughout the year. Please check out the Faculty of Music web page http://www.music.uwo.ca/, and our own McIntosh Gallery http://www.mcintoshgallery.ca/. Information regarding health- and wellness-related services available to students may be found at http://www.health.uwo.ca/

Students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate chair), or other relevant administrators in their unit. Campus mental health resources may be found at http://www.health.uwo.ca/mental_health/resources.html

To help you learn more about mental health, Western has developed an interactive mental health learning module, found here: http://www.health.uwo.ca/mental_health/module.html. This module is 30 minutes in length and provides participants with a basic understanding of mental health issues and of available campus and community resources. Topics include stress, anxiety, depression, suicide and eating disorders. After successful completion of the module, participants receive a certificate confirming their participation.