Anatomy & Cell Biology

Schulich School of Medicine and Dentistry

Western University

Last updated: SEP-25

Welcome to Anatomy and Cell Biology!

Over the next several years you will be working closely with faculty and students associated with the Anatomy and Cell Biology (ACB) Graduate Program. During your studies, there are requirements that you must complete to successfully graduate from the program. There are several academic plans in the ACB graduate program (MSc Research, MSc Clinical Anatomy, PhD Research, Direct-entry PhD, MSc/PhD), so it is important that you understand all the requirements within your stream. The Graduate Chair, Graduate Affairs Committee (GAC), and the administrative staff are here for your support, so please approach us at any time with your questions or concerns.

The ACB office is open 8:30 AM - 4:30 PM, Monday - Friday. Please stop by anytime!

Department of Anatomy & Cell Biology
Schulich School of Medicine and Dentistry
Western University
Medical Sciences Building, Room 443
London, ON N6A 5C1
Phone: (519)661-2111 ext. 83014

GAC Contact Information

Trevor Shepherd
Professor
Associate Chair, Graduate Studies
MSB 446 (UWO)
A4-836 (LHSC)
(519) 685-8500 ext. 56347
tshephe6@uwo.ca

Currently Vacant
Academic Program Coordinator
MSB 443 (UWO)
(519) 661-2111 ext. 81524
anatomy@uwo.ca

Tyler Beveridge
Associate Chair, Cadaveric Anatomy
Director, Clinical Anatomy Program
GAC Representative
MSB 486 (UWO)
(519) 661-2111 ext. 86819
tbeverid@uwo.ca

Martin Duennwald
Associate Professor
GAC Representative
MSB 404 (UWO)
(519) 661-2111 ext. 86874
martin.duennwald@schulich.uwo.ca

Lauren Flynn
Professor
Department Chair
GAC Representative
DSB 00061A (UWO)
(519) 661-2111 ext. 87226
lauren.flynn@uwo.ca

Patrick Lajoie
Associate Professor
GAC Representative
MSB 483 (UWO)
(519) 661-2111 ext. 88220
plajoie3@uwo.ca

Steve Laviolette
Professor
GAC Representative
MSB 468 (UWO)
(519) 661-2111 Ext. 80302
steven.laviolette@schulich.uwo.ca

Steve Renaud
Assistant Professor
GAC Representative
MSB 428 (UWO)
(519) 661-2111 Ext. 88272
srenaud4@uwo.ca

Kat Willmore
Associate Professor
GAC Representative
MSB 488 (UWO)
(519) 661-2111 ext. 88079
katherine.willmore@schulich.uwo.ca

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MSc Anatomy and Cell Biology, Clinical Anatomy

New Student Orientation

All incoming students are required to attend the ACB Orientation. Orientation week begins on the Tuesday following Labour Day. It is strongly encouraged that you attend both TA Day and the Schulich Student Orientation.

Orientation information will come from the Graduate Chair and Graduate Program Coordinator. Additional information will also be provided by one or more of the following:

- 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 Coordinators
- Animal Care and Veterinary Services (ACVS)

Following the orientation, you must:

- ✓ Identify and enroll in all necessary laboratory safety and ACVS courses.
- ✓ Meet with the Clinical Anatomy Program Director to discuss requirements for courses, projects, and TA assignments.

Program Requirements

Timeline: The MSc Clinical Anatomy degree starts in September each year, and students must complete the degree within 20 months.

- There is no financial support available for students beyond 20 months
- The Clinical Anatomy program is not offered part-time.

- ✓ Attend the annual ACB Research Day & Murray Barr Lecture (Usually in October each year)
- ✓ Participate in the ACB Research Day (Year Two)
- ✓ Attend the Friday ACB Seminar Series and PhD Public Lectures (Mandatory 80% attendance in each term)
  - Seminars are scheduled most Fridays @ 12:30-1:30
  - PhD Public Lectures are scheduled periodically throughout the year

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

Students may enroll in additional Graduate courses at the discretion of the supervisory committee. Please complete the required form and submit it to the ACB Program Coordinator.

- MSc Clinical Anatomy students must maintain an 80% average in the program each year.
  - If a student has one 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 the MSc Research Project milestone (MSCRESPROJ), they will be required to withdraw from the program.

Teaching Assistantships: Proficiency as a University Instructor is one of the main outcomes of the MSc Clinical Anatomy program. Your TA assignment will help to develop these teaching skills.

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

MSCSEMINAR	**MSc Seminar Attendance –** *Attend 80% of the Department Seminars and PhD Public Lectures – Mandatory attendance for the entire program*
TEACHANAT	**Teaching Practicum Clinical Anatomy** ✓ *Completion of the Teaching certificate operated via the CTL office.* ✓ *Deliver one didactic lecture in an Undergraduate course.*
SURGERYOBS	**Surgery Observation –** *Minimum one half-day surgery observation*
PROSECTION	**Prosection –** *Complete a detailed dissection of a region assigned by the program director or other ACB faculty member.*
MSCRESPROJ	**MSc Research Project (formerly ANATCELL 9580) –** *Match with a supervisor and project by December of term one.* ✓ *Minimum 80% achievement on the research project* ✓ *Minimum 80% attendance for the senior cohorts' final presentations* ✓ *Present your research at a local, regional, national, or international conference (e.g., ACB Research Day)*
INTROBIORE	**Introduction to Biomedical Research** *Introduction to labs and required OHS training; SSMD milestone*
ACADINTEG	**SGPS Academic Integrity Module** *SGPS milestone*

Progression Expectations

Progression expectations for Year One (terms one, two, and three):

1. Complete Introduction to Biomedical Research milestone INTROBIORES (term one)
2. Complete: ANATCELL 9560, 9561, 9565, 9566, 9567L, 9569 (terms one and two)
3. Match with supervisor and project for milestone MSCRESPROJ by December of term one
4. Demonstrate appropriate progress in project for MSCRESPROJ as outlined in the syllabus.
5. Complete your Surgery observation milestone SURGERYOBS (term three).
6. Complete the dissection milestone PROSECTION (term three)

Progression expectations for Year two (terms four and five):

1. Complete Teaching Practicum milestone TEACHANAT
2. Complete MSc Research Project and presentation milestone (MSCRESPROJ)

Funding

MSc Anatomy and Cell Biology, Clinical Anatomy Students will receive 140 TA hours each academic year. Clinical Anatomy students may also apply for external scholarships.

Student funding is updated annually. A complete funding overview will be completed within the first month of each academic year. Students can access their funding package via the student centre.

MSc Anatomy and Cell Biology, Biological Research

New Student Orientation

All incoming students are required to attend the ACB Orientation. Orientation week begins on the Tuesday following Labour Day. It is strongly encouraged that you attend both TA Day and the Schulich Student Orientation.

Orientation information will come 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 Coordinators
- Animal Care and Veterinary Services (ACVS)

Following the orientation, you must:

- ✓ Identify and enroll in all necessary laboratory safety and ACVS courses.
- ✓ Meet with your supervisor and the Graduate Chair. Together, they will help to:
  - Select courses.
  - Select members of your supervisory committee.
  - Collect your emergency contact information.

NOTE: If you are assigned a TA, you must meet/communicate with the course coordinator(s) within the first week of the term.

NOTE: Students that start in the Winter or Sumer term will have a less formal orientation. It is recommended that you attend the September orientation in the following academic year.

Program Requirements

Timeline: Most students will start the program in September; however, there are opportunities to start in the Winter and Summer terms. MSc students are expected to complete their degree within 24 months (2 years), or six terms.

Requirements:

- ✓ Enroll and attend the ANATCELL 9520/9620 weekly seminars course (Student must self-enroll in this course via their Student Centre).
- ✓ Complete all required milestones.
- ✓ Attend the annual ACB Research Day & Murray Barr Lecture (Usually in October each year)
- ✓ Participate in the ACB Research Day (Year Two)
- ✓ Attend the Friday ACB Seminar Series and PhD Public Lectures (Mandatory 80% attendance in each term)
  - Seminars are scheduled most Fridays @ 12:30-1:30
  - PhD Public Lectures are scheduled periodically throughout the year

- ✓ Attend and participate in a local research day via talk or poster. Examples of local meetings include London Health Research Day (LHRD), SONA, Western Research Forum, Oncology Research & Education Day, and Psychiatry Research Day.
  - Note: Students may show work previously presented at other venues.
- ✓ Apply for eligible scholarships.

Courses*:* The required courses are **ANATCELL 9520 & ANATCELL 9555**.

Students may enroll in additional Graduate courses at the discretion of the supervisory committee. Please complete the required form and submit it to the ACB Program Coordinator.

Milestones: In addition to completing required course work, students are expected to fulfill all milestones by the end of their 24-month degree:

MSCSEMINAR	**MSc Seminar Attendance –** *Attend 80% of the Department Seminars and PhD Public Lectures – Mandatory attendance for the entire program*
INTROBIORE	**Introduction to Biomedical Research** *Introduction to labs and required OHS training, SSMD milestone*
ACADINTEG	**SGPS Academic Integrity Module** *SGPS milestone*

Supervisory Committee

All MSc Research students must have a supervisory committee to help successfully navigate the degree.

- Members of the supervisory committee are valuable resources and should be consulted regularly using both formal (Committee meetings) and informal avenues.
- The supervisory committee is composed of the supervisor(s), a representative from the GAC (appointed by the Graduate Chair), and at least one additional faculty mentor with expertise in aspects of the proposed research project.
- Mentors can be selected from ACB or other programs/departments. Mentors must have SGPS membership and need to be approved by the Graduate Chair and GAC.

Supervisory Committee Meetings: Students outline their progress and receive constructive feedback from the committee. This feedback is meant to assist students in their degree progression and should be scheduled approximately every four to six months.

Meeting 1 – Term 1 → Research Proposal
Meeting 2 – Term 2-3 → Progress Report
Meeting 3 – Term 4 → Progress Report
Meeting 4 – Term 5-6 → (a) permission to write **or**
(b) Progress Report + MSc to PhD transfer meeting (transfer meetings must happen before the end of term 5)

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 3**.

Responsibilities of Supervisory Committee Participants

Supervisor's Responsibility - Initiate contact with potential supervisory committee members to ask if they will serve on the student's committee.

- This is often completed within the first few weeks of term 1, but occasionally there are changes that can occur at any term.
- The Graduate Chair will assign a GAC representative to serve on the committee.
- Supervisors are responsible for helping to ensure that supervisory committee meetings occur on time.

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

Checklist:

- ✓ 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.

All Committee Reports can be found on our website: ACB Documents and Forms

After the meeting:

- Provide a signed copy of the completed form to all committee members via email.
- Submit the original document/form to the ACB Program Coordinator.

NOTE: 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's 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. The GAC member is also responsible for explaining the results of the report to the student and answering any questions that the student might have about the report. At their discretion, a GAC member can call for additional committee meetings should they believe more frequent or additional meetings are required.

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 based on the students' Progress Report and Oral Presentation. Following this discussion, the Supervisory Committee will decide whether progress is deemed **Satisfactory** or **Unsatisfactory**. This decision is based on the majority opinion and will be indicated in the Progress Report. In addition, specific recommendations will be made to guide the student until the next Supervisory Committee meeting. The Progress Report needs to be signed by the students and all the Committee Members in attendance. The GAC representative will review the final evaluation with the student.

If the evaluation is deemed **unsatisfactory**, the report will be discussed at the next GAC meeting. The GAC committee representative will present the Progress Report in the GAC meeting and lead the discussion. Following an unsatisfactory Progress Report, a subsequent Supervisory Committee meeting must be held within six months and must include an additional GAC member (two GAC members must be present).

NOTE: Two consecutive unsatisfactory Supervisory Committee meetings will require the student to withdraw from the Anatomy and Cell Biology Graduate Program.

Progression Expectations

Progress Expectations for Year 1

- Complete all required and optional courses with a minimum 80% average, by the end of term 3 (milestone).
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- During the supervisory committee meetings Progress Report:
    - 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 (milestone).
- Committee meetings Progress Reports:
    - 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 your research project beyond the scope initially provided by the mentor.
- Complete Thesis defence (milestone).
    - For Graduation, a student must have sufficient novel research data in preparation for at least one manuscript to be submitted to a peer-reviewed journal.

MSc to PhD Transfer

An MSc to PhD degree transfer must take place **before the end of term 5.** Students will seek permission to transfer during the regularly scheduled advisory meeting (*Meeting 3 or 4*); 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 takes place (preferably when the pre-filled portion of the Progress Report is sent to committee members). The transfer meeting will be comprised of the same advisory committee members and one additional GAC member.

In preparation for this meeting:

- ✓ Prepare the typical progress report (see *Research Proposals and Progress Reports*) summarizing the result obtained thus far. Make sure to include the overall hypothesis, rationale, and individual aims for the PhD project.
- ✓ Bring the ***Transfer Report Form*****.**
- ✓ Demonstrate that all the MSc requirements outlined in the student handbook have been fulfilled except for writing and defending the thesis.
- ✓ 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(s), and committee.

Collaborative Programs

Please discuss these opportunities with your supervisor and Graduate Chair.

Funding

Student funding is updated annually. A complete overview of all funding will be completed within the first month of each academic year. Students can access their Mercury Funding package via the student centre.

Students that continue past six terms are no longer eligible for any promised funding from the department or SGPS.

MSc → PhD Transfer

Timeline: MSc → PhD transfer students will often start their PhD program in term 6. MSc to PhD transfer students are expected to complete their degree within five years, or 15 terms (inclusive of their time in the MSc program).

Program Requirements

- ✓ Complete all required milestones.
- ✓ Attend the annual ACB Research Day & Murray Barr Lecture (Usually in October each year)
- ✓ Participate in the ACB Research Day (Year Two and subsequent years)
- ✓ Attend the Friday ACB Seminar Series and PhD Public Lectures (Mandatory 80% attendance in each term)
    - Seminars are scheduled most Fridays @ 12:30-1:30
    - PhD Public Lectures are scheduled periodically throughout the year
- ✓ Attend and participate in a local research day via talk or poster. Examples of local meetings include London Health Research Day (LHRD), SONA, Western Research Forum, Oncology Research & Education Day, and Psychiatry Research Day.
    - **Note:** Students may show work previously presented at another venue.
- ✓ Apply for eligible scholarships.

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

PHDCOMPEX	**PhD Comprehensive Exam –** *To be completed in term 6*
PHDDEPTPRE	**PhD Departmental Seminar Presentation –** *to be completed in term 7 or 8*
PHDSEMINAR	**PhD Seminar Attendance –** *Attend 80% of the Department Seminars and PhD Public Lectures – Mandatory attendance for the entire program*
INTROBIORE	**Introduction to Biomedical Research** *Introduction to labs and required OHS training, SSMD milestone*
ACADINTEG	**SGPS Academic Integrity Module** *SGPS milestone*

Supervisory Committee

All PhD students must have a supervisory committee to help successfully navigate the degree.

- Members of the supervisory committee are valuable resources and should be consulted regularly using both formal (Committee meetings) and informal avenues.
- The supervisory committee is composed of the supervisor(s), a representative from the GAC (appointed by the Graduate Chair), and at least two additional faculty mentors with expertise in aspects of the proposed research project.
- Mentors can be selected from ACB or other programs/departments. Mentors must

have SGPS membership and need to be approved by the Graduate Chair/GAC.

Supervisory Committee Meetings: Students outline their progress and receive constructive feedback from the committee. This feedback is meant to assist students in their degree progression and should be scheduled approximately every four to six months.

Meeting 1 – Term 1	→ Research Proposal (MSc)
Meeting 2 – Term 2	→ Progress Report (MSc)
Meeting 3 – Term 3-4	→ Progress Report (MSc)
Meeting 4 – Term 5-6	→ Progress Report – Transfer & Pre-Comprehensive Exam meetings
Meeting 5 – Term 7	→ Progress Report
Meeting 6 – Term 8-9	→ Progress Report
Meeting 7 – Term 10	→ Progress Report
Meeting 8 – Term 11-12	→ Progress Report
Meeting 9 – Term 13	→ Progress Report
Meeting 10 – Term 14-15	→ Permission to write

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.

NOTE: Typically, students will seek permission to write their Thesis during ***Meeting 10.***

Responsibilities of Supervisory Committee Participants

Supervisor's Responsibility - Initiate contact with potential supervisory committee members to ask if they will serve on the student's committee.

- This is often completed within the first few weeks of term 1, but occasionally there are changes that can occur in any term.
- The Graduate Chair will assign a GAC representative to serve on the committee.
- Supervisors are responsible for helping to ensure that supervisory committee meetings occur on time.

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

Checklist:

- ✓ 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.

All Committee Reports can be found on our website: ACB Documents and Forms

After the meeting:

- Provide a signed copy of the completed form to all committee members via email.
- Submit the signed form to the ACB Program Coordinator via original document or digital copy.

NOTE: 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's 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 regarding the report. At their discretion, a GAC member can call for additional committee meetings should they believe more frequent or additional meetings are required.

All Committee Reports can be found on our website: ACB Documents and Forms

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 based on the students' Progress Report and Oral Presentation. Following this discussion, the Supervisory Committee will decide whether progress is deemed **Satisfactory** or **Unsatisfactory**. This decision is based on the majority opinion and will be indicated on the Progress Report form. In addition, specific recommendations will be made to guide the student until the next Supervisory Committee meeting. The Progress Report needs to be signed by the students and all the Committee Members in attendance. The GAC representative will review the final evaluation with the student.

If the evaluation is deemed **unsatisfactory**, the report will be discussed at the next GAC meeting. The GAC committee representative will present the Progress Report in the GAC meeting and lead the discussion. Following an unsatisfactory Progress Report, a subsequent Supervisory Committee meeting must be held within six months and must include an additional GAC member (two GAC members must be present).

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

Progression Expectations

Progress Expectations for Year 1

- See MSc Progress expectations

Progress Expectations for Year 2

- MSc → PhD transfer meeting (no later than term 5)
- Successful completion of the PhD *Comprehensive Exam* milestone during term 6.
- Prepare a manuscript (first author).
- Complete additional/optional course offerings with a minimum average of 80%.
- 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 your research project beyond the scope initially provided by the mentor.

Progress Expectations for Year 3

- Complete the *Seminar presentation* milestone during term 7 or 8.
- Complete additional/optional course offerings with a minimum average of 80%.
- Prepare a second manuscript (first author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.

- During the supervisory committee meetings:
    - Demonstrate scientific proficiency and evidence of independent and critical thinking.

Progress Expectations for Year 4

- Complete additional/optional course offerings with a minimum average of 80%.
- Prepare a third manuscript (first author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- During the supervisory committee meetings:
    - 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 public lecture and defence (milestone).

Collaborative Programs:

Please discuss these opportunities and coordination of program requirements with the Graduate Chair.

Funding

Student funding is updated annually. A complete overview of all funding will be completed within the first month of each academic year. Students can access their Mercury Funding package via the student centre.

PhD Anatomy and Cell Biology, Biological Research

New Student Orientation

All incoming students are required to attend the ACB Orientation. Orientation week begins on the Tuesday following Labour Day. It is strongly encouraged that you attend both TA Day and the Schulich Student Orientation.

Orientation information will come 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 Coordinators
- Animal Care and Veterinary Services (ACVS)

Following the orientation, you must:

- ✓ Identify and enroll in all necessary laboratory safety and ACVS courses.
- ✓ Meet with your supervisor and the members of the Graduate Affairs Committee (GAC). They will help to:
  - Select courses.
  - Select members of your supervisory committee.
  - Collect your emergency contact information.
  - If you are assigned a TA, you must meet with the course coordinator(s) within the first week of the term.

NOTE: Students that start in the Winter or Summer term will have a less formal orientation. It is recommended that you attend the September orientation in the following academic year.

Program Requirements

Timeline: Most students will start the program in September; However, there are opportunities to start in the Winter and Summer terms. PhD students are expected to complete their degree within four years, or 12 terms. MSc to PhD transfer students and Direct Entry PhD students are expected to complete their degree within five years, or 15 terms.

Requirements:

- ✓ Enroll and attend required courses (Students must self-enroll via their student centre).
- ✓ Complete all milestones.
- ✓ Attend the annual ACB Research Day & Murray Barr Lecture (Usually in October each year)
- ✓ Participate in the ACB Research Day (Year Two and subsequent years)
- ✓ Attend the Friday ACB Seminar Series and PhD Public Lectures (Mandatory 80% attendance in each term)
  - Seminars are scheduled most Fridays @ 12:30-1:30 in MSB282
  - PhD Public Lectures are scheduled periodically throughout the year
- ✓ Attend and participate in a local research day via talk or poster. Examples of local meetings include London Health Research Day (LHRD), SONA, Western Research Forum, Oncology Research & Education Day, and Psychiatry Research Day.
  - Students may show work previously presented at another venue.
- ✓ Apply for eligible scholarships.

Courses*:* The required courses are **ANATCELL 9620 & ANATCELL 9655**.

Students may enroll in additional Graduate courses at the discretion of the supervisory committee. Please complete the required form and submit it to the ACB Program Coordinator.

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

PHDCOMPEX	**PhD Comprehensive Exam –** *to be completed in term 3*
PHDDEPTPRE	**PhD Departmental Seminar Presentation –** *to be completed in term 4 or 5*
PHDSEMINAR	**PhD Seminar Attendance –** *Attend 80% of the Department Seminars and PhD Public Lectures – Mandatory attendance for the entire program*
INTROBIORE	**Introduction to Biomedical Research** *Introduction to labs and required OHS training, SSMD milestone*
ACADINTEG	**SGPS Academic Integrity Module** *SGPS milestone*

NOTE: If a student is required to remain in the PhD program longer than 12 terms, the student must seek permission from the GAC.

NOTE: PhD students may be exempt from course work if they can demonstrate an equivalent skill set that is provided from these courses. **Exemptions must be authorized by the Graduate Chair**.

Supervisory Committee

All PhD students must have a supervisory committee to help successfully navigate the degree.

- Members of the supervisory committee are valuable resources and should be consulted regularly using both formal (Committee meetings) and informal avenues.
- The supervisory committee is composed of the supervisor(s), a representative from the GAC (appointed by the Graduate Chair), and at least two additional faculty mentors with expertise in aspects of the proposed research project.
- Mentors can be selected from ACB or other programs/departments. Mentors must have SGPS membership and need to be approved by the Graduate Chair/GAC.

Supervisory Committee Meetings: Students outline their progress and receive constructive feedback from the committee. This feedback is meant to assist students in their degree progression and should be scheduled approximately every four to six months.

Meeting 1 – Term 1 → Research Proposal
Meeting 2 – Term 2-3 → Progress Report – Pre-Comprehensive Exam meeting
Meeting 3 – Term 4 → Progress Report
Meeting 4 – Term 5-6 → Progress Report
Meeting 5 – Term 7 → Progress Report
Meeting 6 – Term 8-9 → Progress Report
Meeting 7 – Term 10 → Progress Report
Meeting 8 – Term 11-12 → Permission to write

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.

NOTE: Typically, students will seek permission to write their Thesis during ***Meeting 8.***

Responsibilities of Supervisory Committee Participants

Supervisor's Responsibility - Initiate contact with potential supervisory committee members to ask if they will serve on the student's committee.

- This is often completed within the first few weeks of term 1, but occasionally there are changes that can occur in any term.
- The Graduate Chair will assign a GAC representative to serve on the committee.
- Supervisors are responsible for helping to ensure that supervisory committee meetings occur on time.

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

Checklist:

- ✓ 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.

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After the meeting:

- Provide a signed copy of the completed form to all committee members via email.
- Submit the signed form to the ACB Program Coordinator via original document or digital copy.

NOTE: 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's 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 regarding the report. At their discretion, a GAC member can call for additional committee meetings should they believe more frequent or additional meetings are required.

All Committee Reports can be found on our website: ACB Documents and Forms

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 based on the students' Progress Report and Oral Presentation. Following this discussion, the Supervisory Committee will decide whether progress is deemed **Satisfactory** or **Unsatisfactory**. This decision is based on the majority opinion and will be indicated on the Progress Report form. In addition, specific recommendations will be made to guide the student until the next Supervisory Committee meeting. The Progress Report needs to be signed by the students and all the Committee Members in attendance. The GAC representative will review the final evaluation with the student.

If the evaluation is deemed **unsatisfactory**, the report will be discussed at the next GAC meeting. The GAC committee representative will present the Progress Report in the GAC meeting and lead the discussion. Following an unsatisfactory Progress Report, a subsequent Supervisory Committee meeting must be held within six months and must include an additional GAC member (two GAC members must be present).

NOTE: Two consecutive unsatisfactory Supervisory Committee meetings will require the student to withdraw from the Anatomy and Cell Biology program.

Progression requirements

Progress Expectations for Year 1

- Complete all required and optional courses with a minimum average of 80% by the end of term 3.
- 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.
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- Successful completion of the PhD *Comprehensive Exam* milestone during term 3.

Progress Expectations for Year 2

- Complete additional/optional course offerings with a minimum average of 80%.
- Prepare and submit a manuscript (first or co-author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- Complete the *Seminar presentation* milestone during term 4 or 5.
- 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 your research project beyond the scope initially provided by the mentor.

Progress Expectations for Year 3

- Complete additional/optional course offerings with a minimum average of 80%.
- Prepare a second manuscript (first author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- During the supervisory committee meetings:
  - Demonstrate scientific proficiency and evidence of independent and critical thinking.

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 public lecture and defence (milestone).

Collaborative Programs:

Please discuss these opportunities with your supervisor and Graduate Chair.

Funding:

Student funding is updated annually. A complete overview of all funding will be completed within the first month of each academic year. Students can access their Mercury Funding package via the student centre.

Students that continue past 12 terms are no longer eligible for any promised funding from the department or SGPS.

Direct-Entry PhD Anatomy and Cell Biology, Biological Research

New Student Orientation

All incoming students are required to attend the ACB Orientation. Orientation week begins on the Tuesday following Labour Day. It is strongly encouraged that you attend both TA Day and the Schulich Student Orientation.

Orientation information will come 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 Coordinators
- Animal Care and Veterinary Services (ACVS)

Following the orientation, you must (within the first week or two from the start of term):

- ✓ Identify and enroll in all necessary laboratory safety and ACVS courses.
- ✓ Meet with your supervisor and the members of the Graduate Affairs Committee (GAC). They will help to:
  - Select courses.
  - Select members of your supervisory committee.
  - Collect your emergency contact information.

NOTE: Students that start in the Winter or Summer term will have a less formal orientation. It is recommended that you attend the September orientation in the following academic year.

NOTE: Students that continue past 15 terms (MSc to PhD transfer or Direct Entry admission), are no longer eligible for promised funding from the department or SGPS.

Program Requirements

Timeline: Most students will start the program in September; however, there are opportunities to start in the Winter and Summer terms. Direct entry PhD students are expected to complete their degree within five years or 15 terms.

Requirements:

- ✓ Enroll and attend required ANATCELL courses (Students must self-enroll via their student center).
- ✓ Complete all required milestones.
- ✓ Attend the annual ACB Research Day & Murray Barr Lecture (Usually in October each year)
- ✓ Participate in the ACB Research Day (Year Two and subsequent years)
- ✓ Attend the Friday ACB Seminar Series and PhD Public Lectures (Mandatory 80% attendance in each term)
  - Seminars are scheduled most Fridays @ 12:30-1:30
  - PhD Public Lectures are scheduled periodically throughout the year
- ✓ Attend and participate in a local research day via talk or poster. Examples of local meetings include London Health Research Day (LHRD), SONA, Western Research Forum, Oncology Research & Education Day, and Psychiatry Research Day.
  - **Note:** Students may show work previously presented at another venue.
- ✓ Apply for eligible scholarships.

Courses*:* The required courses are **ANATCELL 9620 & ANATCELL 9655**.

Students may enroll in additional Graduate courses at the discretion of the supervisory committee. Please complete the required form and submit it to the ACB Program Coordinator.

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

PHDCOMPEX	**PhD Comprehensive Exam –** *To be completed in term 6*
PHDDEPTPRE	**PhD Departmental Seminar Presentation –** *to be completed in term 7 or 8*
PHDSEMINAR	**PhD Seminar Attendance –** *Attend 80% of the Department Seminars and PhD Public Lectures – Mandatory attendance for the entire program*
INTROBIORE	**Introduction to Biomedical Research** *Introduction to labs and required OHS training, SSMD milestone*
ACADINTEG	**SGPS Academic Integrity Module** *SGPS milestone*

NOTE: Students with an excellent academic standing (85% overall average in their last 10 course credits) while also exhibiting research experience may be accepted directly into the PhD program without prior enrollment or completion of an MSc degree. Direct entry PhD students are expected to develop skills that are required for their PhD in Anatomy and Cell Biology at an accelerated pace.

NOTE: If a direct-entry PhD student is required to remain in the PhD program longer than 15 terms, the student must seek permission from the GAC.

Supervisory Committee

All PhD students must have a supervisory committee to help successfully navigate the degree.

- Members of the supervisory committee are valuable resources and should be consulted regularly using both formal (Committee meetings) and informal avenues.
- The supervisory committee is composed of the supervisor(s), a representative from the GAC (appointed by the Graduate Chair), and at least two additional faculty mentors with expertise in aspects of the proposed research project.
- Mentors can be selected from ACB or other programs/departments. Mentors must have SGPS membership and need to be approved by the Graduate Chair/GAC.

Supervisory Committee Meetings: Students outline their progress and receive constructive feedback from the committee. This feedback is meant to assist students in their degree progression and should be scheduled approximately every four to six months.

Meeting 1 – Term 1 → Research Proposal
Meeting 2 – Term 2 → Progress Report
Meeting 3 – Term 3-4 → Progress Report
Meeting 4 – Term 5 → Progress Report – Pre-Comprehensive Exam meeting
Meeting 5 – Term 7 → Progress Report
Meeting 6 – Term 8-9 → Progress Report
Meeting 7 – Term 10 → Progress Report
Meeting 8 – Term 11-12 → Progress Report
Meeting 9 – Term 13 → Progress Report
Meeting 10 – Term 14-15 → Permission to write

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.

NOTE: Typically, students will seek permission to write their Thesis during ***Meeting 10.***

Responsibilities of Supervisory Committee Participants

Supervisor's Responsibility - Initiate contact with potential supervisory committee members to ask if they will serve on the student's committee.

- This is often completed within the first few weeks of term 1, but occasionally there are changes that can occur in any term.
- The Graduate Chair will assign a GAC representative to serve on the committee.
- Supervisors are responsible for helping to ensure that supervisory committee meetings occur on time.

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

Checklist:

- ✓ 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.

All Committee Reports can be found on our website: ACB Documents and Forms

After the meeting:

- Provide a signed copy of the completed form to all committee members via email.
- Submit the signed form to the ACB Program Coordinator via original document or digital copy.

NOTE: 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's 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 regarding the report. At their discretion, a GAC member can call for additional committee meetings should they believe more frequent or additional meetings are required.

All Committee Reports can be found on our website: ACB Documents and Forms

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 based on the students' Progress Report and Oral Presentation. Following this discussion, the Supervisory Committee will decide whether progress is deemed **Satisfactory** or **Unsatisfactory**. This decision is based on the majority opinion and will be indicated on the Progress Report form. In addition, specific recommendations will be made to guide the student until the next Supervisory Committee meeting. The Progress Report needs to be signed by the students and all the Committee Members in attendance. The GAC representative will review the final evaluation with the student.

If the evaluation is deemed **unsatisfactory**, the report will be discussed at the next GAC meeting. The GAC committee representative will present the Progress Report in the GAC meeting and lead the discussion. Following an unsatisfactory Progress Report, a subsequent Supervisory Committee meeting must be held within six months and must include an additional GAC member (two GAC members must be present).

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

Progression Expectations

Progress Expectations for Year 1

- Complete all required and optional courses with a minimum average of 80% by the end of term 3.
- 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.
- Submit an abstract (first or co-author) to a provincial/national/international conference.

Progress Expectations for Year 2

- Successful completion of the PhD *Comprehensive Exam* milestone during term 6.
- Complete additional/optional course offerings with a minimum average of 80%.
- Prepare and submit a manuscript (first or co-author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- 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 your research project beyond the scope initially provided by the mentor.

Progress Expectations for Year 3

- Complete the *Seminar presentation* milestone during term 7 or 8.
- Complete additional/optional course offerings with a minimum average of 80%.
- Prepare a second manuscript (first author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- During the supervisory committee meetings:
    - Demonstrate scientific proficiency and evidence of independent and critical thinking.

Progress Expectations for Year 4

- Complete additional/optional course offerings with a minimum average of 80%.
- Prepare a third manuscript (first author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- During the supervisory committee meetings:
    - 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 public lecture and defence (milestone).

Collaborative Programs:

Please discuss these opportunities and coordination of program requirements with the Graduate Chair.

Funding

Student funding is updated annually. A complete overview of all funding will be completed within the first month of each academic year. Students can access their Mercury Funding package via the student centre.

MD/PhD Anatomy and Cell Biology, Biological Research

New Student Orientation

All incoming students are required to attend the ACB Orientation. Orientation week begins on the Tuesday following Labour Day. It is strongly encouraged that you attend both TA Day and the Schulich Student Orientation.

Orientation information will come 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 Coordinators
- Animal Care and Veterinary Services (ACVS)

Following the orientation, you must (within the first week or two from the start of term):

- ✓ Identify and enroll in all necessary laboratory safety and ACVS courses.
- ✓ Meet with your supervisor and the members of the Graduate Affairs Committee (GAC). They will help to:
  - Select courses.
  - Select members of your supervisory committee.
  - Collect your emergency contact information.

NOTE: Students that start in the Winter or Summer term will have a less formal orientation. It is recommended that you attend the September orientation in the following academic year.

NOTE: Students that continue past 9 terms are no longer eligible for promised funding from the department or SGPS.

Program Requirements

Timeline: Students that have been accepted to the MD/PhD program are eligible for direct entry into the ACB PhD program. Most students will start the program in September; however, there are opportunities to start in the Winter and Summer terms. MD/PhD students are expected to complete their degree within three years, or nine terms. 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.

Requirements:

- ✓ Attend and enroll required ANATCELL courses (Students must self-enroll via their student center).
- ✓ Complete all required milestones.
- ✓ Attend the annual ACB Research Day & Murray Barr Lecture (Usually in October each year)
- ✓ Participate in the ACB Research Day (Year Two and subsequent years)
- ✓ Attend the Friday ACB Seminar Series and PhD Public Lectures (Mandatory 50% attendance in each term)
    - Seminars are scheduled most Fridays @ 12:30-1:30
    - PhD Public Lectures are scheduled periodically throughout the year
- ✓ Attend and participate in a local research day via talk or poster. Examples of local meetings include London Health Research Day (LHRD), SONA, Western Research Forum, Oncology Research & Education Day, and Psychiatry Research Day.
    - **Note:** Students may show work previously presented at another venue.
- ✓ Apply for eligible scholarships.

Courses*:* The required courses are **ANATCELL 9620 & ANATCELL 9655**.

Students may enroll in additional Graduate courses at the discretion of the supervisory committee. Please complete the required form and submit it to the ACB Program Coordinator.

NOTE: MD/PhD students will be expected to take ANATCELL 9620 & ANATCELL 9655 but **will not** be expected to attend the classes in year 2 like other research students.

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

PHDCOMPEX	**PhD Comprehensive Exam –** *To be completed in term 3*
PHDDEPTPRE	**PhD Departmental Presentation –** *To be completed in Term 4 or 5*
PHDSEMINAR	**PhD Seminar Attendance –** *Attend 50% of the Department Seminars and PhD Public Lectures – Mandatory attendance for the entire program*
INTROBIORE	**Introduction to Biomedical Research** *Introduction to labs and required OHS training, SSMD milestone*
ACADINTEG	**SGPS Academic Integrity Module** *SGPS milestone*

Supervisory Committee

All MD/PhD students must have a supervisory committee to help successfully navigate the degree.

- Members of the supervisory committee are valuable resources and should be consulted regularly using both formal (Committee meetings) and informal avenues.
- The supervisory committee is composed of the supervisor(s), a representative from the GAC (appointed by the Graduate Chair), and at least two additional faculty

mentors with expertise in aspects of the proposed research project.
- Mentors can be selected from ACB or other programs/departments. Mentors must have SGPS membership and need to be approved by the Graduate Chair/GAC.

Supervisory Committee Meetings: Students outline their progress and receive constructive feedback from the committee. This feedback is meant to assist students in their degree progression and should be scheduled approximately every four to six months.

Meeting 1 – Term 1	→ Research Proposal
Meeting 2 – Term 2-3	→ Progress Report – Pre-Comprehensive Exam meeting
Meeting 3 – Term 4	→ Progress Report
Meeting 4 – Term 5-6	→ Progress Report
Meeting 5 – Term 7	→ Progress Report
Meeting 6 – Term 8-9	→ Permission to write

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.

NOTE: Typically, students will seek permission to write their Thesis during ***Meeting 6.***

Responsibilities of Supervisory Committee Participants

Supervisor's Responsibility - Initiate contact with potential supervisory committee members to ask if they will serve on the student's committee.

- This is often completed within the first few weeks of term 1, but occasionally there are changes that can occur in any term.
- The Graduate Chair will assign a GAC representative to serve on the committee.
- Supervisors are responsible for helping to ensure that supervisory committee meetings occur on time.

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

Checklist:
- ✓ 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.

All Committee Reports can be found on our website: ACB Documents and Forms

After the meeting:
- Provide a signed copy of the completed form to all committee members via email.
- Submit the signed form to the ACB Program Coordinator via original document or digital copy.

NOTE: 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's 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 regarding the report. At their discretion, a GAC member can call for additional committee meetings should they believe more frequent or additional meetings are required.

All Committee Reports can be found on our website: ACB Documents and Forms

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 based on the students' Progress Report and Oral Presentation. Following this discussion, the Supervisory Committee will decide whether progress is deemed **Satisfactory** or **Unsatisfactory**. This decision is based on the majority opinion and will be indicated on the Progress Report form. In addition, specific recommendations will be made to guide the student until the next Supervisory Committee meeting. The Progress Report needs to be signed by the students and all the Committee Members in attendance. The GAC representative will review the final evaluation with the student.

If the evaluation is deemed **unsatisfactory**, the report will be discussed at the next GAC meeting. The GAC committee representative will present the Progress Report in the GAC meeting and lead the discussion. Following an unsatisfactory Progress Report, a subsequent Supervisory Committee meeting must be held within six months and must include an additional GAC member (two GAC members must be present).

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

Progression Expectations

Progress Expectations for Year 1

- Complete all required and optional courses with a minimum average of 80% by the end of term 3.
- Successful completion of the PhD *Comprehensive Exam* milestone during term 3.
- 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.
- Submit an abstract (first or co-author) to a provincial/national/international conference.

Progress Expectations for Year 2

- Complete the *Seminar presentation* milestone during term 4 or 5.
- Complete additional/optional course offerings with a minimum average of 80%.
- Prepare and submit a manuscript (first or co-author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.

- 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 your research project beyond the scope initially provided by the mentor.

Progress Expectations for Year 3

- Complete additional/optional course offerings with a minimum average of 80%.
- Prepare a second manuscript (first author).
- Submit an abstract (first or co-author) to a provincial/national/international conference.
- Complete Thesis public lecture and defence (milestone).
- During the supervisory committee meetings:
    - Demonstrate scientific proficiency and evidence of independent and critical thinking.

Funding

Student funding is updated annually. A complete overview of all funding will be completed within the first month of each academic year. Students can access their Mercury Funding package via the student centre.

Research Progress Reports and Proposals

Research Proposals and Progress Reports

Overview: Supervisory committee reports are required for all supervisory committee meetings. They provide members of the committee with an update of the students 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 given to the supervisor 10 business days prior to the meeting so they can make appropriate comments.
- ✓ The report must be given to members of the supervisory committee 5 business days prior to the meeting.
  - The report should be submitted as a single electronic PDF document.
- ✓ A copy of the report must also go to the Graduate Program Coordinator.

All Committee Reports can be found on our website: ACB Documents and Forms

The reports consist of two parts:

1. A summary of student's academic activities (or a copy of the students up-to-date CV)
2. A research proposal or progress report.

The goal: Prepare the initial document for the first supervisory committee meeting and then revise and update the document during the 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 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 student's 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) –Summary of Activities + Proposal

1. **Summary of Student's academic activities/CV should include:**
   - Courses currently enrolled in/to be taken/remaining.
   - Scholarships (currently 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.

First 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 provide 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').

   NOTE: It is highly recommended that manuscripts in preparation or submitted, be appended as separate documents for consideration by the committee.

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

Progress Report (Final Meeting) – Research Proposal + Progress + Summary of Activities + Thesis Outline.

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

PhD Comprehensive Exam (Milestone)

Purpose

The purpose of the Comprehensive Exam (CE) is to evaluate a student's ability to conduct research at a PhD level. Students need to show their ability to form hypotheses, design studies that test those hypotheses, and anticipate expected outcomes and caveats of their experiments independently and without guidance from their supervisor or peers.

The CE is evaluated by a committee of faculty in Anatomy and Cell Biology (ACB) and other Basic Medical Science Department within the Schulich School of Medicine and Dentistry (SSMD). It is expected that students learn the required skills through interaction with their supervisor(s), their research colleagues, and their peers.

Students are expected to devote most of their time to preparing for and completing the CE during this time. Supervisors are asked to respect this and should not expect their student(s) to spend much (if any) time on experiments and other lab work. Students with research activities (i.e. presentation at a scientific meeting) that conflict with the CE timeline should consult the Graduate Chair immediately to arrange an alternate timeline.

Format and Writing Process

To test the student's abilities, the student will write a CIHR-style 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 10 written pages, including tables and figures. Additional pages are permitted as references, but only the actual proposal and summary page are required – Additional forms from the research module, CV module, and budget module are not needed. The grant will be based upon the student's PhD thesis project. However, it is expected that the grant will describe research ideas that extend beyond the objectives of the thesis project. A draft of the grant outline and list of examiners should be reviewed by the supervisor(s) and advisory committee members at a Pre-exam Committee Meeting (i.e., Progress Meeting or Transfer Meeting). The Graduate Chair will verify with the supervisor(s) that the final submitted grant represents the original work of the student. Please refer to section below on Guidelines regarding Plagiarism.

The grant is to be written by the student as an **independent exercise**; However, the student should consult with Mentor(s) during the initial stages. The Mentor(s) can 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.

Evaluation and Examination Process

1. ***Mentors***: One or more Mentors may be selected by the student in consultation with the supervisor. The mentor may be their supervisor but cannot be one of 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
    - One extra-departmental examiner

The student will select (in order of preference) two faculty members from the ACB Graduate program, and two extra-departmental faculty members (in order of preference) to be approached and serve as Examiners for the comprehensive exam. The Graduate Chair 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), committee members and supervisors when considering Examiners.

The Graduate Chair will assign the GAC examiner, and the final Examining Committee is subject to approval by the GAC.

Written Evaluation

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 Graduate Chair.

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.

Oral Exam Evaluation

The oral exam is scheduled two weeks after the written grant proposal submission deadline. The oral exam is a short 15-minute presentation followed by 2 rounds of questioning (approximately 5 – 15 minutes for each examiner).

The primary goal of the oral exam is to 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 student's 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.

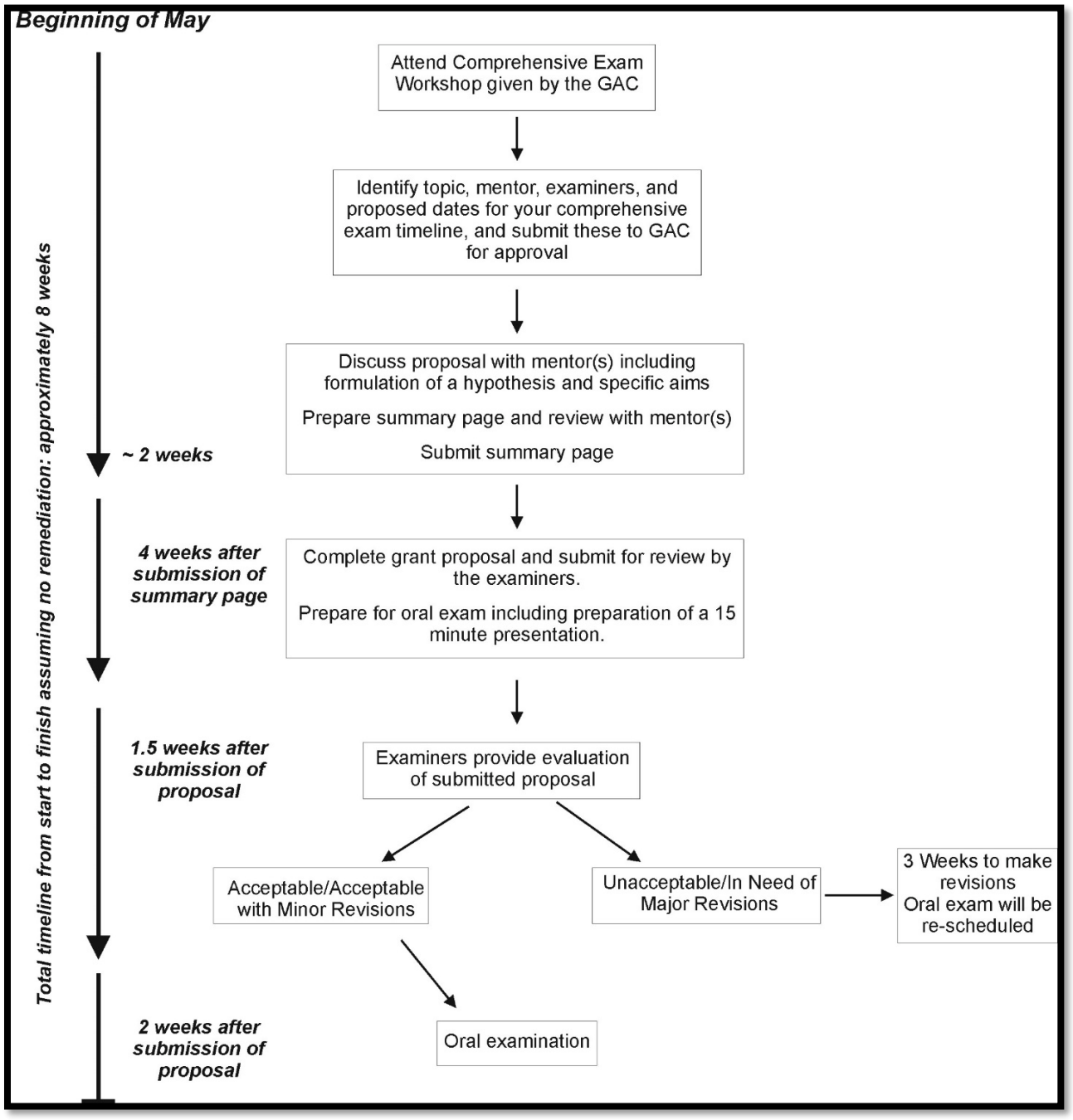
After the oral examination, Examiners will deliberate (in the absence of the student) and provide a grade of Pass or Fail by majority consensus. Oral and/or written feedback will also be provided to the student and shared with the supervisor.

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.

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 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 Graduate Chair 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.

Comprehensive Exam Timeline



Additional Information and Program Policies

Graduate Teaching Assistants (GTA)

The Anatomy & Cell Biology (ACB) graduate program views teaching as an important component of Graduate education. The Anatomy and cell Biology Department encourages students in the program to accept Teaching Assistant positions (TAs) offered through ACB or other departments at the University. Students should understand that TA positions can be time consuming and may also choose to opt-out.

It should be noted that teaching is an essential component of the MSc Clinical Anatomy program and integrated into that curriculum. A full TA (140 hours over the Fall/Winters terms) 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 up to a maximum of a full TA (140 hours per term).

NOTE: 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. Students are entitled to 15 vacation days per year, 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, that time will be subtracted from their holiday allotment (15 days).

Graduate students are entitled to time off during the official University holiday closure over the Christmas break (typically December 24th to the first week of January). Days off before and/or after the official University closure period are subtracted from your vacation allotment (15 days).

Should Western University close for any reason (i.e., snow day), students will not be penalized vacation days. Students may take additional time off without affecting their holiday time for special circumstances (attending conferences, recognized religious holidays etc.).

In any case, time away from the laboratory or program should be discussed with:

- Biological Research (MSc and PhD) – Supervisor(s)
- Clinical Anatomy (MSc) – Program director

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 vacation days, the student must seek permission from their Biological Research supervisor or MSc Clinical Anatomy Program Director. If substantial time away from the University is necessary (months), the student must consult with the Graduate Chair to request a formal leave of absence through the School of Graduate and Postdoctoral Studies (SGPS).

Health and Wellness

As part of a successful graduate student experience at Western University, 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.

Various wellness and well-being support services (including mental health support) are offered for all students attending Western University.

Students seeking help are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, program director (graduate chair), or other relevant administrators in their unit. These people will help you to find the appropriate services on campus.

Mental health concerns may include (but not limited to): stress, anxiety, depression, suicide, and eating disorders.

All students receive a membership to Western University's Campus Recreation Centre as part of their ancillary fees.

There are various cultural events offered throughout the year.

- Faculty of Music web page http://www.music.uwo.ca/
- McIntosh Gallery http://www.mcintoshgallery.ca/
- Western University calendar of events