

REX PROGRAM MENTEE MANUAL



UNDERGRADUATE RESEARCH OPPORTUNITIES

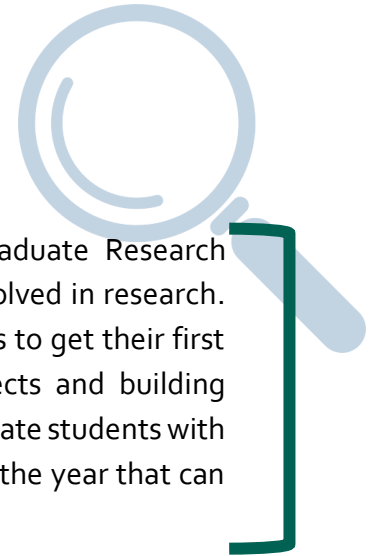


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The Research Experience (REX) Program: An Introduction



The Research Experience (REX) program was created by Undergraduate Research Opportunities (URO), a UBC AMS club dedicated to helping students get involved in research. The primary purpose of the program is to provide an opportunity for students to get their first taste of research by fostering important skills in designing research projects and building meaningful connections between students and mentors. REX pairs undergraduate students with a graduate or postdoctoral student to develop a research project throughout the year that can be presented at a conference or published in a journal.

What Is a REX Mentee?

A REX student can be any undergraduate student, from any faculty. In 2017-18, 66% of REX students came from the Faculty of Science, 15% from the Faculty of Arts, and 10% from the Faculty of Applied Science. Despite the majority of our students being from Science, the REX program is reaching out to a more diverse population every year.

REX is a great way to see if research is something you would like to pursue in your career at UBC and a great way to make some connections if you do!

What Is a REX Mentor?

Mentors are current researchers at UBC (graduate students, faculty, or postdoctoral fellows). They are matched with a small group of undergraduate students (typically 2-4 students), to collaboratively create a research project that can be presented at a conference or published in a journal. Your mentor will supervise the project and provide guidance and feedback during the research process. The REX program is flexible in that the mentor and mentee(s) can decide together the scope of research and how it will take place.

REX mentors are expected to either approve research questions and project timelines or provide students with a proposed study project and timeline. During the REX program, mentors



should check in with students about the literature review process, the research question, abstract write-up, research proposal, presentation and other key points during the REX program as needed.

What Is a REX Project?

REX projects are driven primarily by students' interests and initiative. Students formulate a research question, derive a hypothesis from the question, and develop a research protocol to test the hypothesis. Students conduct all these steps with guidance from mentors. URO provides workshops to aid students in acquiring a better understanding of some research skills in order to contribute more fully to the project.

Students begin their projects by conducting a literature review, and most projects conclude with the presentation of the students' work in the form of a poster or oral presentation at an undergraduate research conference, generally the Multidisciplinary Undergraduate Research Conference (MURC). Certain departments and clubs on campus also host annual undergraduate research conferences at which students could present.

There are cases of REX students being provided the opportunity of being permitted to either assist in a research project or conduct their own research in the mentor's workplace (e.g. laboratory, clinical research office). However, no such outcome is required to be provided by mentors or promised to prospective REX students as part of participating in the REX Program.

The Final Product

Generally, REX groups produce a poster or oral presentation that will be presented at the ***Multidisciplinary Undergraduate Research Conference (MURC)***. The poster must include all the basic aspects of a research poster, such as introduction/background, hypothesis, and experimental design/methods. The results section is optional, as many REX projects are research proposals and do not collect data due to financial limitations. An oral presentation will follow a similar format and should be under ten minutes in length. We encourage groups to come up with creative ways to simulate data collection or analysis processes if desired. In the past, groups have provided anticipated results, analyzed data provided by the mentor, and utilized computer simulations in presenting data.

An abstract must be produced and submitted to MURC in late January and posters will be due mid- to late-February. For more information, please refer to the MURC website.



The REX Experience

Benefits

Mentoring will be a positive and enriching experience for both mentors and students. Mentors get an opportunity to give back to the UBC community, while students get an introduction into the research and professional world, among other benefits:

- Start building a professional network
- Opportunity to get involved in research and present your work at a conference or publish in a journal
- Develop and enhance professional and transferrable skills
- Acquire advice on research, academic, and career experiences
- Explore new ideas and areas of interest
- Gain clarity on career, academic, and personal plans

Expectations

One of the best aspects of the REX program is that it is flexible – mentors and students can decide on how the research experience and mentor-student relationship will work. We do have some minimal expectations, outlined here. The REX Committee will check in a couple of times throughout the program to ensure that expectations are being met. **Note that participants who do not meet the expectations of the program will not receive certification upon completion.**

For the Student

- Spend at least four hours per month building the mentoring relationship
- Respond to all communication in a timely and professional manner
- Set specific goals for the mentoring relationship with the mentor and group members
- Agree and commit to expectations and goals set with the mentor
- Be appropriate in their requests of their mentor
- Approach the mentoring relationship with an open mind, professionalism, and respect
- Be receptive to suggestions and feedback
- Communicate any problems with the mentoring relationship to the REX Committee at rex.uro.ubc@gmail.com



For the Mentor

- Spend at least four hours per month building the mentoring relationship
- Set expectations with students for how and when you will contact each other
- Help your student identify and set goals, track progress, and make changes as needed
- Approach the mentoring relationship with an open mind, professionalism, and respect
- Support students' professional and personal development
- Respond to all communications in a timely manner
- Maintain and model professional behavior, and define it if needed
- Communicate any problems with the mentoring relationship to the URO REX Committee at rex.uro.ubc@gmail.com

The REX Process

The Matching Process

- Mentees are matched with mentors based on mentee and mentor preferences
- Mentors submit their profiles by **September 7th, 2018** — they are posted on our website
- Students can search through the mentor profiles and select their top 5 mentors; applications are due by **September 30th, 2018**
- The mentor selects their top student choices between **October 4th and October 12th**
- Matching results will be announced by **late October**

Student Application

****DUE SEPTEMBER 30th, 2018****

- Application answers: "What interests you about this mentor's research?"
- Students may choose to suggest projects they are thinking of doing or have already undertaken
 - Try to show your passion for the mentor's field!
- Tips for writing a good REX Mentee Application can be found on our website, and students may come to URO office hours for guidance



EVENT: Mentee Info Sessions and Meet Your Mentor

****September 25th and 26th****

- Held on Sept. 25th and 26th, from 5:30-6:30PM in Buchanan A
- Meet Your Mentor is combined with the Mentee Info Sessions so that students can meet potential mentors in an interview-style setting after getting some information about the REX program
- The event is held after Clubs Days, giving students an extra chance to sign up for the program

Once a Match Is Made

- Mentors are expected to initiate contact with their mentees and arrange a time to meet as a group
- We encourage students to send an introductory e-mail to their mentor and peer group

The First Conversation

We strongly suggest that you have a conversation early on in this relationship in-person, over the phone, or via Skype. This personal interaction will go far in creating a connection and setting up a good foundation for your relationship. As a mentee, remember to:

- Behave professionally, but voice your **excitement**
Make it clear to your mentor that you are happy to be working with them!
- Come to the conversation with some **ideas**
This will show your group and mentor that you want to put effort into the project
- Ask **questions** and try to get to know one another

It is important at the beginning of the relationship to talk about **expectations and goals** for the REX program. Your mentor should start this dialogue in this first conversation or set up another time to do so. You can use our REX Mentorship Agreement and Goal-Setting Sheet, which can be found in [Appendix A](#) and [Appendix B](#), or on the Resources page of our website.



The Research Project

Project Goal: Proposal-type research project to be presented in poster or oral presentation form. The presentation will be geared towards the general public at MURC in late March.

****NOTE:** "Deadlines to REX" are the deadlines set by our program. These dates are intended to help students manage their time wisely and prevent procrastination. "Deadlines to MURC" are the tentative deadlines set by MURC (more information and specific dates should be released by December 2018, MURC website: <https://students.ubc.ca/career/career-events/multi-disciplinary-undergraduate-research-conference>). **Students who fail to follow the MURC deadlines will not be able to present at MURC.**

CONDUCTING A LITERATURE REVIEW

Deadline to REX: Nov. 23rd

Students are encouraged to explore areas of research that interest them, as well as to keep track of their literature for the final poster/paper.

- Mentors might want to provide suggestions and feedback as to how they would approach a literature review and provide links to key papers which pertain to the research question.
- Students should understand the literature they read thoroughly in order to be able to build upon it, and should ask mentors about aspects of research that they do not understand.

Once a research question is chosen (see below), mentees conduct an increasingly focused literature review to find scientific literature pertaining to the research questions and to determine which methods have been/could be used to collect and analyze data in the field of study.

SELECTING A RESEARCH QUESTION

Deadline to REX: Nov. 9th

Students may develop the research question based on their mutual interests or may help with projects assigned by the mentor. The mentor's role here is to help students narrow down the research question to something feasible for an average research group, but students should display the initiative to develop a project they care about. Both REX and MURC encourage creative and imaginative projects, and this should be prioritized over feasibility. As a general rule of thumb, any project works as long as the technology exists and it could be completed in the duration of an average PhD.



CHOOSING THE RESEARCH METHOD

Deadline to REX: Dec. 22nd

The bulk of most REX projects is the literature review. We encourage students to propose a feasible experiment based on their research in their poster or oral presentation, but do not expect participants to have collected or analyzed their own data (though we encourage this for very active groups, if feasible). The methods submitted here can be theoretical but should be reasonable to be conducted by a graduate student within their years of study.

ANTICIPATING RESULTS

Deadline to REX: Jan. 11th

Most REX projects will not include results, but some students choose to write about anticipated results. This section will talk about and discuss the significance and meaning of either supporting or opposing evidence for your hypothesis. Anticipated results should be based on informed inferences and previous cited research. If the mentor feels comfortable and/or if it is applicable, mentors may choose to provide their own data for their mentees to analyze and present. Students who develop a project that can elicit results are encouraged to do so.

WRITING AN ABSTRACT

Deadline to MURC: Late January

All students are required to write and submit a proposal type abstract to MURC if they wish to present. More info and submission available at: <http://students.ubc.ca/career/murc/present>

PREPARING THE FINAL RESEARCH PRESENTATION

Deadline to MURC: Late February

- The abstract submitted in January will be reviewed and return to the group around the beginning of February. MURC takes place in mid-March.
- Students can choose to present their research project as a poster OR oral presentation.
- If you decide to present with posters: MURC participants will get their posters printed for FREE! The deadlines for free printing posters will be approximately 2 weeks before the conference. Please check our newsletter and the MURC website for updated information.



Past Project Examples

Father involvement in HIV-related care and antiretroviral (ARV) medication adherence in South Africa (Anita Bal, Bianca Yeung) – 2014 MURC poster presentation winner

<http://www.uroubc.ca/wp-content/uploads/2014/12/HIV-Infected-Infants.pdf>

The Effectiveness of Dabigatran in Treating Alzheimer’s Disease (Harani K. Ramasamy and Tom Cheng) – 2013 MURC poster presentation winner

<http://www.uroubc.ca/wp-content/uploads/2014/12/Harani-R.-Poster.pdf>

The Byzantine Pilgrims of St. Stephen’s Monastery: Understanding Historical Migration through Strontium and Oxygen isotopic Analysis (Hannah Guo, Sophia Ly) – 2013-2014 REX poster

<http://www.uroubc.ca/wp-content/uploads/2014/12/Byzantine-Pilgrims.pdf>

REX Resources and Support

Office Hours

Office hours are provided by URO’s Student Engagement Committee (SEC), and are available for students to ask questions, voice their concerns, and receive feedback through one-to-one consultation.

To learn more about office hours, please visit <http://www.uroubc.ca/researchofficehours/>

Workshops

Workshops are hosted by REX periodically to better prepare and assist either mentors or students with their research project. The workshops available for this year are:

- How to Be a REX Mentor
- Understanding Research Questions
- Performing Literature Reviews
- Reading Research Papers
- Writing an Abstract (Hosted by MURC)



Monthly Newsletters

URO will be sending out a newsletter to all URO students each month. The newsletter will announce opportunities, resources, and updates. Profiles of projects and/or mentor/mentee highlights may also be featured. A section of this newsletter will be dedicated to REX events and deadlines.

In addition, REX will be sending out periodic emails to inform participants of events and deadlines.

URO Website

Find our website at www.uroubc.com/rex.

The REX page of the website will hold information and resources for mentors and mentees, including a calendar, guidelines, reminders, and links to registration forms. Please check the website regularly for updates, as it will be an important method of communication between the REX Committee and REX participants.



Timeline

SEPTEMBER

- Sep. 4th Imagine Day — Phase 1 of Mentee Recruitment
- Sep. 5th Mentor profiles available on URO website
- Sep. 7th Mentee Application opens
- Sep. 18-21st Clubs Days — URO boothing at the Nest
- Sep. 25th/26th **EVENT:** Mentee Information Night and Meet Your Potential Mentee/Mentor
- Sep. 30th Mentee Application Closes

OCTOBER

- Oct. 12th **DEADLINE:** Student rankings submitted by mentors
- Mid-Oct. Matching Completed — REX Groups announced
- Oct. 22-24th **WORKSHOP:** "Research Questions and Literature Review"
- Oct. 30-31st **WORKSHOP:** "How to Read a Research Paper"

NOVEMBER

- Nov. 1st Second round of matching completed
- Nov. 9th **DEADLINE:** Submit research question to REX
- Nov. 22nd **DEADLINE:** Complete literature search
- Nov. 20-22nd **EVENT:** Mentor-Mentee Mingle

DECEMBER

- Dec. 22nd **DEADLINE:** Complete methods section

JANUARY

- Mid Jan. **WORKSHOP:** "Writing Abstracts" hosted by MURC
- Late Jan. **DEADLINE: Submit Abstract to MURC**

FEBRUARY

- Early Feb. MURC abstracts reviewed and returned
- Early Feb. **EVENT:** Pizza Peer Review Night
- Late Feb. **DEADLINE: Submit Poster to MURC**

MARCH

- Mid Mar. **Multidisciplinary Undergraduate Research Conference**
- Mar. 31st Mentor of the Year Nomination Survey Due

APRIL

- Early Apr. **EVENT:** Mentor Appreciation Week
- Apr. 5th Mentor of the Year Announced



Thank you!

Thank you for your participation in the URO Research Experience Program. This program would not be possible without your commitment and enthusiasm. Our greatest aim is to provide mentees with an opportunity to understand what research is all about, and we know that our program caters to some of the best students on campus.

This guide will evolve with the REX Program. As we work together throughout this year, we welcome your suggestions for improving our written materials as well as our program. Your participation in this process will help the REX Program become a best practice model for UBC and other universities.

If you have any questions or concerns, please do not hesitate to contact us at rex.uro.ubc@gmail.com.

Ana Ivkov
Research Experience Program Co-Chair
Undergraduate Research Opportunities

Amelia Tjoa
Research Experience Program Co-Chair
Undergraduate Research Opportunities



Appendices

The following appendices are meant to provide guidance in dealing with some of the challenges that frequently arise during the REX program. Communication between mentors, group members, and URO is essential to a successful REX project. We encourage groups to meet frequently, discuss their schedules early, and suggest that any difficulties are reported to URO as soon as possible. We work hard to provide mentees and mentors with the best possible experience, but much of the program's success depends on the mentor/mentee relationship.



Appendix A: REX Mentorship Agreement

To get the most out of your REX experiences, URO strongly recommends that you talk about the expectations and goals both the student and mentor have for the mentoring relationship. Commit to the communication plans discussed and decided upon by the mentor and mentee. Renegotiate as needed.

Addressing expectations: How will the relationship work?

1. Meeting together: How will we meet together?
 - In Person
 - Skype
 - Phone
 - E-mail
2. Frequency of interaction: How often would we like to meet/interact?
 - Once per week
 - Every other week
 - Once a month
3. If an e-mail/voice mail is received, we will respond within:
 - a. 24 hours
 - b. 1-2 days
 - c. 3 days
 - d. Other: _____
4. If we cannot make an expected meeting, how will we get in touch?

5. When will we meet/talk next?

Agreeing on goals — What do you hope to gain from the relationship?

1. What are the mentee's goals for mentoring relationship?



2. What are the mentor's goals for mentoring relationship?

3. What are some initiatives and support we can both take to help achieve these goals?

If one party is unresponsive at any point in the relationship, initiate contact. If the mentor/mentee does not respond after multiple attempts, please do not hesitate to contact the REX Committee.



Appendix B: Goal Planning Sheet

Setting goals at the beginning of the REX relationship is critical because it gives direction to the relationship and informs the mentor how to better support their mentee(s). Remember that goal setting is a process, meaning that the priorities of the mentee can change and evolve. A skill that successful goal setters have is knowing when to change or set new goals.

Creating SMART Goals

SMART means:	Action:	Consider:
Specific	Specify how goals will be accomplished	What specifically am I trying to accomplish?
Measureable	Create criteria for how to achieve a goal, or to measure success in completing a long-term goal	How can I measure whether or not I achieve my goal?
Action-Oriented	Result-driven actions to be taken	What concrete results or skills will I have as a result of my time and energy?
Realistic	Strive for attainable goals, considering resources and constraints relative to the situation	Is the goal realistic?
Timely	Allow a reasonable time frame to complete each goal	By when do I want to accomplish the goal?