



# UBC SPARC

## SPARC Tips for Strategic Application to NSERC CREATE

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### Links

[NSERC CREATE – Program Webpage](#)  
[NSERC CREATE – Form 102 Instructions](#)  
[NSERC CREATE – Program FAQs](#)  
[NSERC CREATE – Program Committee Guidelines](#)  
[CREATE’s Multidisciplinary Review Committee](#)  
[NSERC FAQs](#) (related to technical support, etc.)

[NSERC On-line System](#) (used for submission)  
[NSERC Guidelines relating to COVID-19](#)  
[List of Funded CREATE Initiatives](#)  
[List of UBC-led CREATE Initiatives](#)  
[SPARC CREATE Webpage](#)



## 1. INTRODUCTION

The strategy provided in this resource is based on insight from UBC CREATE grant leads and program coordinators, NSERC CREATE program staff, and members of NSERC and UBC's multidisciplinary review committees. There is little overlap with NSERC's [CREATE program material](#), [Letter of Intent to apply \(LOI\) instructions](#) and [Application stage instructions](#). As such, applicants are strongly encouraged to carefully review these documents and successful LOIs and full applications in SPARC's [sample grant library](#).

### 1.1. CREATE – A component of NSERC's *Research Training and Talent Development* suite of programs

The CREATE program is designed to improve the training and mentoring of teams of highly qualified students and postdoctoral fellows from Canada and abroad through the development of innovative training programs.

As described in NSERC's [2022-2023 Departmental Report](#), the CREATE program is part of NSERC's suite of programs that support Research Training and Talent Development (as opposed to those programs that support Discovery Research or Research Partnerships). As such, the primary objective of the CREATE funding program is to ensure Canada has a pool of highly skilled people in the natural sciences and engineering. This program helps to build the human capital required to enable a strong, globally competitive research and innovation system in Canada. Results indicators for the Research Training and Talent Development suite of programs include:

- The proportion of award holders who self-identify as members of underrepresented groups,
- The number of research trainees supported, and
- The percentage of previously funded trainees that list Research and Development as the main activity in their current position.

We encourage applicants to keep this objective and these results indicators in mind while designing your program and preparing your application.

Based on the information we have gathered, we recommend CREATE applications propose programs to enhance opportunities for a large and diverse group of graduate trainees to develop technical and professional skills, and to gain experience in enriched and varied research environments, including work-integrated learning. Furthermore, competitive proposals will demonstrate demand for graduates of the program and will facilitate the transition to careers in the natural sciences and engineering.

### 1.2. NSERC'S multidisciplinary review

*A reviewer manual is not published by NSERC for the CREATE competition.*

The NSERC CREATE [selection committee](#) is multidisciplinary and composed of distinguished Canadian and foreign members from academia and the private sector. Members commit to 3 years of participation.

Typically, there is representation from industry and academia, with significant expertise in areas such as curriculum development and pedagogy, graduate training experience, science education, and experiential and online learning. Expertise in Equity, Diversity and Inclusion is also to be expected.

At the LOI stage, each committee member reviews 20 to 25 LOIs, with approximately three reviewers assigned to each proposal, based on expertise. At the Application stage, proposals are typically reviewed by 2 to 3 committee members and one or more expert reviewers. Program staff also read all proposals.



## 2. NSERC's REPORTING REQUIREMENTS

**In brief:** NSERC will hold funded teams to that which they propose in the application. Therefore, propose a program which is compelling but realistic.

The CREATE program requires extensive yearly reporting, as described on [NSERC's CREATE webpage](#) under "Progress reports and performance evaluations" and in more detail in the *CREATE Grant Holder's Guide*. As described in these documents, teams will be required to demonstrate through written reports and detailed progress report spreadsheets that funded programs are meeting key training, mentoring and professional development deliverables and spending NSERC funds as proposed in the application.

NSERC cautions that funds may be reduced, phased-out, or terminated based on deviations between real and proposed expenditures, not training at the scale proposed (e.g., attaining HQP training numbers), or not including all value-added training elements or internship placements as proposed. CREATE leads have described NSERC staff comparing their yearly reports, line-by-line, with their original applications. Therefore, teams are strongly encouraged to propose the program exactly as they intend for it to be implemented.

Participants must make every effort to adhere to the approved training plan. Deviations from the initial training plan should be reviewed and endorsed by the program committee and approved by NSERC before the changes are implemented. In some instances, CREATE teams have their funding reduced, phased-out or terminated for substituting what they see as equally valuable training opportunities to those proposed in their application.

To propose a program that is compelling but feasible, we highly recommend you: 1) consult with those who have led CREATE programs, 2) think through the details of program delivery during the development of the LOI and application, and 3) frequently consider the impact of elements of program design on the experience of participating graduate students.

Upon request, SPARC can share recent versions of NSERC's Welcome Package for New Grantees, including the *CREATE Getting Started Checklist*, *Tips for Compiling Reports*, *Progress Reports Spreadsheets*, and *CREATE Grant Holder's Guide (2018 version)*, which have kindly been shared with us from recent CREATE grantees.

## 3. CONCEPTUALIZING A COMPELLING CREATE PROGRAM

In the sections that follow, we present strategic advice for conceptualizing a compelling program based on the CREATE program objectives, selection criteria and our understanding of historical selection committee preferences.

### 3.1. Demand for graduates

**In brief:** Proposals should provide evidence of genuine need for additional or complementary knowledge and/or skills to prepare graduates for employment in Canada's workforce, including a description of the scale of demand.

A CREATE program should seek to address a genuine need for highly skilled people in an area of natural sciences or engineering, for which training is otherwise unavailable. This knowledge gap should have been identified by potential employers or be the result of an emerging scientific challenge, ideally requiring multidisciplinary expertise. Substantiate claims of demand by referencing industry or government reports. Additionally, consider consulting with industry partners and describe a process of



co-developing learning objectives to fill technical and/or professional skills gaps in their typical pool of candidates.

### 3.2. Value-added training

**In brief:** Put yourself in the shoes of a potential graduate student and consider: what training activities beyond those typical of the graduate student experience would be unique, exciting and draw you to enroll in a program? What would allow you to develop a more holistic understanding of your field, make meaningful connections, and/or look great on a resume?

Use the words “value-added” to indicate which training elements are unique to the CREATE initiative and not found in existing training program. This will help reviewers see that you’ve addressed this central objective of the funding program.

**Trainee Experience:** When considering potential training components applicants should consider not only the trainee experience during the program but also that of graduates transitioning to the Canadian workforce.

**“Value-added” training is central to the objective of CREATE**, meaning training that a graduate student in this field would otherwise not experience. Value-added training opportunities should be unique to the CREATE initiative or delivered at a larger scale than otherwise possible. Consider what would make graduates highly-employable and/or support a smooth and efficient transition to gainful and rewarding employment.

**CREATE also encourages innovation in training activities.** This relates to creative mechanisms of training. Recently funded CREATE initiatives have included innovative training elements such as: multi-day workshops with industry partners providing training in key emerging skills; the development of new national certifications; certification in existing competencies such as Project Management; cross-disciplinary exchange programs; international exchange opportunities; or the pairing of senior researchers with graduate students to digitize and “rescue” historical datasets.

NSERC typically expects that graduate programs will include class instruction, thesis research projects, potential collaboration with industry partners, participation in conferences, and travel as appropriate given one’s research needs. If your “value-added” elements are restricted to activities that fall within these categories, clearly explain how value is being added relative to available graduate programs.

### 3.3. Mentoring

**In brief:** Propose inclusive, enriched and ideally evidence-based mentoring practices.

Submissions must address mentoring within the context of the training program and how the team’s past contributions to mentoring position the proposed program for success in developing HQP.

NSERC and the research community are increasingly recognizing the importance of mentoring in the development of HQP. Mentoring can help HQP to build self-confidence, overcome challenges, develop advanced learning and career goals, and promote inclusion, especially for HQP from historically underserved, marginalized, or excluded populations. Providing a variety of high-quality mentoring opportunities can help ensure trainees’ equitable participation in research and career growth.



We recommend the following in your development of mentoring plans:

- Consider how you can provide an enriched mentoring experience, relative to typical graduate school experiences.
- Consider how inclusive mentoring practices may help to address or mitigate the impact of barriers faced by members of underrepresented groups in your field.
- Consider all trainee types/stages and corresponding (differing) needs. As with training, the primary focus should be on graduate trainees; as a rule of thumb, at least 60% of trainees must be graduate students.
- Given the demand you've outlined for graduates or your program, and considering the most likely career paths of graduates, tailor mentoring plans accordingly.
- It may be most feasible to propose mentoring plans that use existing programs and resources at UBC (and at other participating institutions), while adding value with new initiatives.
- Highlight unique approaches to mentoring to stand out from your competitors. For instance, would a particular approach leverage unique elements of your field or environment?
- Describe past mentoring successes/training achievements (e.g., mentorship awards, training grants).
- Though academic supervisors have an important mentorship role as it relates to providing equitable support and guidance to trainees, it may also be valuable to involve mentors from industry and other potential employers as they will bring different perspectives, connections, and skills.

#### UBC Mentoring Programs:

UBC has existing mentoring programs, which could be included as part of your mentoring plans, or could inspire the development of your own mentoring activities:

- The UBC Centre for Student Involvement and Careers has developed a [Mentor Handbook](#) with tips for successful mentoring and runs a [Mentoring Program](#) which matches students with an industry mentor and/or faculty mentor to help build a network, clarify educational plans, develop leadership skills, and explore career paths. This link also includes a list of mentoring programs run by other faculties and schools.

The Centre also offers a digital platform, *Ten Thousand Coffees*, to connect students and professionals to have meaningful conversations in-person or online.

- [SAGE](#), Supporting Aboriginal Graduate Enhancement, seeks to establish mentorship and networking opportunities for Indigenous students.
- [Graduate Engineering Mentorship Program](#) from the Faculty of Applied Science
- [Academic and Provost Mentoring website](#)
- [Entrepreneurship @ UBC Mentoring Network](#)

#### Mentoring Resources:

- [Nature's Guide for Mentors](#) and [Self-Assessment tool](#)
- An evidence-based [overview of inclusive mentoring practices](#) from Brown University.



- [Mentoring Competency Assessment for Mentors](#): A self-reflection tool from the University of Wisconsin-Madison to assess research mentors and mentees based on six core competencies: 1) maintaining effective communication, 2) aligning expectations, 3) assessing understanding, 4) addressing diversity, 5) fostering independence, and 6) promoting professional development
- An overview of the [various mentor roles](#), including: the sage, cheerleader, good listener, connector, editor, bankroller, career coach, and life coach.
- A step-by-step guide from CIHR to [Individual Development Plans](#) (IDPs), a common element of high-quality mentoring practices. IDPs can assist with assessment, planning and goal-setting, including non-academic career paths.

### 3.4. Professional skills

**In brief:** Tailor professional skills development to your field to complement disciplinary expertise. What skills have future employers said are missing in graduates and are important to improved job-readiness?

CREATE programs must foster the acquisition and development of important professional skills among students and postdoctoral fellows that complement their qualification and technical skills, and improve their job-readiness for careers in industry, government, non-governmental organizations, and/or academia. Note that NSERC's program description indicates that CREATE initiatives can take advantage of existing programs rather than developing new professional skills training courses.

**Go beyond finding a job:** While professional skills such as resume development and interview skills are important, these are focused on securing a job and arguably when offered alone do not address the CREATE objective of strengthening job-readiness (i.e., usefulness once the job has been secured).

**Make evidence-based decisions about what professional skills to focus on:** CREATE application instructions point to a report released in 2008 by the Canadian Association for Graduate Studies (CAGS), entitled "[Professional Skills Development for Graduate Students](#)". The report lists and describes key professional skills needed to contribute to the knowledge-based economy and that can be addressed in the university context, namely: 1) communication; 2) management; 3) teaching; and 4) ethics. The report also recognizes the importance of: interpersonal skills; critical and creative thinking; personal effectiveness; integrity; leadership; knowledge mobilization and knowledge translation; and societal/civic responsibilities. Review of this brief document is encouraged.

Applicants may also be inspired by other initiatives and reports released by CAGS, such as:

- [Graduate Professional Development: Towards a National Strategy](#): This two-phase report was funded by the tri-agencies and describes the availability of professional development programs in Canadian universities and initial efforts to assess their utility.
- [Rethinking the PhD](#): This initiative recognizes that doctoral students are contributing to society in increasingly varied ways and contexts after graduation. A related report, [On the Dissertation](#), offers an overview of the changes occurring in the dissertation and describes new competencies required of doctoral graduates. The Rethinking the PhD website (linked above) also provides a collection of non-traditional dissertation profiles (including several undertaken at UBC).

**Address skills that will be most beneficial to improve job readiness in your field:** Have you heard from employers and stakeholders about which professional skills are generally lacking in their applicant pool and/or new employees? Ideally, the professional skills you choose to develop in your trainees will be





specific to your field and the potential career paths you've described. Explain how and why graduates will be better prepared both to enter and contribute to the workforce by taking part in the professional skills development you've proposed. How do these skills complement the other skills and qualifications that graduates of your program will have?

**Don't forget HQP at partner institutions:** If your program is multi-institutional, do not focus exclusively on the resources available at the lead applicant's institution but address how you will offer professional skills development across multiple institutions.

#### UBC-based Professional Development Resources:

- [UBC Faculty of Graduate and Postdoctoral Studies](#): Offers workshops under these competencies: Graduate School Success, Self-Management, Professional Effectiveness, Career Building, and Constructive Leadership.
- [Centre for Student Involvement and Careers](#): A hub that connects students to experiences, resources, and people to help them achieve their personal and career goals. Provides orientation and peer mentoring, as well as a variety of [career resources](#).
- [Graduate Pathways to Success \(GPS\) program](#): A palette of non-credit workshops, seminars and other activities designed to complement your graduate program's academic curriculum and mentorship experience. UBC Graduate and Postdoctoral Studies has also compiled a list of electronic resources for graduate school success, available [here](#).
- [Pathways to Professorship Program](#) (P2P) and [Pathways to Industry Program](#) (P2I): Seminar programs to learn how to apply and hold academic positions and industry-oriented careers.
- [Centre for Writing and Scholarly Communication](#): An educational support unit at UBC Vancouver dedicated to helping facilitate the writing of undergraduates, graduate students, postdoctoral fellows, staff, and faculty. The CWSC draws on evidence-based research in writing studies to design and deliver writing consultations, workshops, retreats, and resources.
- [Centre for Teaching, Learning and Technology \(CTLT\)](#): Offers professional development opportunities (workshops, seminars, certificate programs, and one-on-one coaching) for graduate students on teaching and related topics.
- [UBC Wellness Centre](#): Amongst other services, provides a comprehensive suite of [career resources](#) to help students with skills to explore career possibilities, get a job, network, and do their job well.
- [Mitacs courses](#) offer professional development training to advanced degree graduates, supplementing their education and research experience with the tools necessary to succeed in today's workforce.

### 3.5. Equity, Diversity & Inclusion (EDI)

**In brief:** Demonstrate an understanding of barriers in your research ecosystem to participation from historically underserved, marginalized, or excluded populations and propose meaningful action to build a diversified and competitive research base.



CREATE reviewers have long been asked to consider the diversity of the team when assessing applications. EDI-related requirements and selection criteria require applicants to consider EDI as it applies to research objectives and projects, team composition, management structure, and trainee recruitment and inclusion. NSERC asks that teams address the mentoring of trainees, noting that mentoring can be particularly valuable to HQP from underrepresented and disadvantaged groups.

Equity, diversity and inclusion are everyone's responsibility. This is especially true for those proposing to oversee a large-scale graduate training and mentoring program. The team of co-applicants should be prepared to take personal responsibility for delivering a training program which runs on equitable and inclusive practices.

**Inform yourself of the barriers faced by those from underrepresented groups in your field.** Reviewers will look for EDI considerations that are specific to your field and to the barriers faced by groups traditionally underrepresented within it. Reviewers will expect data (e.g., on gender and ethnic diversity) for your field, Faculty, and/or Department to provide context. Some information may be available through your Department or Faculty. Alternatively, you could consult a Faculty Equity Lead or Associate Dean of Equity, or see whether relevant data are available through the [CAUT Almanac of Postsecondary Education](#) or [Statistics Canada](#).

**Don't propose EDI training as your only means of increasing diversity and inclusion – especially if the training is only required of trainees:** While training in areas such as racial equity work, unconscious bias, or inclusive practices can be useful and may be proposed as a first step to ensure a basic level of fluency in EDI best practices and issues, accompany training with specific actions to increase the inclusion and advancement of underrepresented and disadvantaged groups in the NSE.

Consider the perspective of a graduate trainee from an underrepresented group in your field. How will the team of co-applicants ensure that recruitment, training, and mentoring practices will be equitable and inclusive for these individuals? With an understanding of the challenges faced by underrepresented groups in your field, propose a program structure (e.g., management, delivery of training and mentoring opportunities) that will ensure that equitable and inclusive practices are upheld and that you are doing your part to address and dismantle barriers.

**We suggest committing to both education and action** that will positively impact the climate for wellbeing and inclusion at UBC and in your program's working and learning environments. Educate yourself and the team delivering the program:

- Watch [Beyond the Binary at UBC](#) and check out [related resources](#) to better understand the responsibility we all share to help UBC's community members of all gender identities feel safe, supported, and able to thrive. The Beyond the Binary at UBC video is an accessible educational resource that aims to help staff, faculty, students, and other community members put our commitments into action.
- Ask/require those involved in teaching and training within your program to complete the UBC Centre for Teaching, Learning and Technology's [Introductory online course in creating inclusive learning environments](#).
- Ask/require those involved in teaching and training within your program to complete the UBC Equity & Inclusion Office's [Positive Space: Foundations](#) course at key times during the program to ensure that your program is welcoming to Lesbian, Gay, Bisexual, Two-Spirit, Trans and Queer students, staff, faculty, alumni, and allies.





- Learn about what makes a respectful community at UBC through [Speak Up! Community Building with Respect](#) workshops led by UBC Wellbeing. Participants will learn to use inclusive language, how to interrupt practices that are problematic, and how to respond respectfully to being "called out" or told what's been said or done is offensive.
- Check out [SOGI \(Sexual Orientation and Gender Identity\) UBC](#), run through the Faculty of Education, including SOGI Inclusive Education resources, videos, and events.
- Use the [Intentional EDI Decision-Making Tool](#) to ensure EDI is front-of-mind in any decisions you make while designing and running the program.
- Read [UBC's Inclusion Action Plan: Building a More Inclusive UBC](#), which identifies priority goals for inclusion at UBC and strategic-level actions needed to achieve the goals. This plan operationalizes the Inclusion theme in [Shaping UBC's Next Century: UBC's Strategic Plan 2018-2028](#).
- Read [UBC's Indigenous Strategic Plan](#), which provides clear, implementable steps to enhance Indigenous engagement at UBC Vancouver, while also providing an overarching UBC-wide plan to be implemented across both campuses.
- Read [UBC's StEAR \(Strategic Equity and Anti-Racism\) Framework and Roadmap for Change](#), which has been established to guide UBC's systematic implementation of equity and anti-racism priorities and to evaluate its progress over the next three to five years.
- If your program is multi-institutional, make sure that you also consider the environments that participants will be a part of at partner institutions and the resources available there. Describe any unique contributions these institutions can offer to the training program.
- Check out and use the trainings, toolkits, research and articles available from [IDEAs in Action](#) to help bring inclusion, diversity, equity and accountability to your team and to the lab. Topics include: Team Effectiveness, Psychological Safety, Inclusive Leadership, Implicit Bias, Upstander, Recruitment & Hiring, Performance Assessment, Inclusive Meetings & Events, Culture of Feedback, Virtual Teams, Organizational Culture, and Racial Equity.

#### **Keep your team accountable and engaged.**

- How will the team composition, program structure, management, training and mentoring opportunities, etc. purposefully and reliably be based in equitable and inclusive practices?
- How will you monitor whether your team of co-applicants, collaborators, and partners is inclusive, and is being intentional about equitable distribution of opportunities?
- Can you incorporate mechanisms to promote a consultative style of leadership?
- Biases are disrupted and stereotypes are overcome when there is social engagement. How will your program foster a sense of community and encourage engagement?

#### **EDI Resources beyond UBC:**

##### **NSERC**

- [Tri-Agency Statement on Equity, Diversity and Inclusion](#)
- [NSERC Guide on integrating equity, diversity and inclusion considerations in research](#)
- [NSERC Equity, Diversity, and Inclusion Hub](#)

##### **NFRF**

- [Best Practices in Equity, Diversity and Inclusion in Research](#)

##### **CIHR**



- [Key considerations for the appropriate integration of sex and gender in research](#)
- [How to integrate sex and gender into research](#)
- [CIHR Unconscious Bias Training Module](#)
- [Research Involving First Nations, Inuit and Métis People of Canada - webinar](#)

**SSHRC**

- [Indigenous Research Statement of Principles](#)

**Other**

- [Stanford's Gendered Innovations website](#)
- [United Nations Declaration on the Rights of Indigenous Peoples](#)
- [CRC Equity, Diversity and Inclusion: A Best Practices Guide for Recruitment, Hiring and Retention](#)

### 3.6. Addressing overlap with existing CREATE programs

**In brief:** Avoid overlap with existing programs and/or perceived renewal of training activities from a past CREATE initiative. Where there is real or perceived overlap, address it strategically.

CREATE funds are non-renewable, consistent with NSERC's expectation that a program be sustained following the end of CREATE's six-year term. NSERC Selection Committee members are specifically asked to look for attempts to renew funding that would support the same students or the same training elements. Therefore, it is important to avoid overlap with past and present CREATE programs, and justify any real or perceived overlap.

We strongly encourage asking all team members to disclose any past or current participation on a funded CREATE initiative, or any current participation on other CREATE applications. You are responsible for ensuring that all team members are eligible to participate on your application, taking into account NSERC's eligibility criterion (i.e., maximum participation by any one researcher on two CREATE initiatives, active or applied for, at any given time), and that your proposal addresses any real or perceived overlap.

We also strongly encourage you to review the list of past and present CREATE programs, to ensure that a strong case can be made for sufficient demand for your program and subsequently your graduates. A list of UBC-led CREATE programs, past and present, is [available here](#), with links to program websites. A complete list of all CREATE programs funded across Canada in the last six years is [available here](#).

**Team member overlap with current CREATE initiatives (active or applied for):** Researchers who currently hold or participate in an active CREATE grant must clearly describe their distinct contribution to and justification for their participation in the proposed training program.

Consider and justify why this individual—despite their time and resource commitments to the delivery of another program—is ideally suited to contribute to your program and the training of participants. From the trainee perspective, will this team member add more value than any other individual? You might describe their expertise and/or access to equipment, data, resources, or partnerships that will add unique value to the trainee experience. If only one component of their larger research program (and of their training) aligns with your training program, and if this component is distinct from that which aligns with the other program they are participating in, be sure to describe this distinction.

**Team member participation on past CREATE initiatives:** Previous CREATE grantees and co-grantees must clearly describe how this application differs from those already funded.

Team member participation on past CREATE initiatives can be described as a strength, however there must not be real overlap in trainees to be supported and training activities to be delivered. Focus on the



value of the proposed team member's experience managing and delivering a CREATE training program. Be sure to describe those elements of their past CREATE training program that have been sustained.

**Subject matter overlap:** If you are applying in a research area that is already supported by other active CREATE grants be sure to clearly describe how this application differs from those already funded.

If there is overlap in subject matter but a difference in the likely careers of graduates, be clear about this point (ensuring that it will be understood by subject matter experts and members of the multidisciplinary committee). If graduates will compete for jobs with graduates of existing CREATE programs, provide evidence of sufficient demand to necessitate multiple training programs in this area of research. If there is a regional strength (e.g., at the academic institution(s) involved, local industry, etc.) be sure to describe this, along with plans to leverage it for the benefit of trainees.

### 3.7. Industry participation

**In brief:** Because of the focus on employability of graduates, participation by industry partners and other potential employers in the design, delivery, and steering of the program is encouraged.

Committee members have stated that they want to see training for the job market and purposeful development of marketable skills. Accordingly, participation of industry partners or other potential employers in the design and delivery of a CREATE program is a strength, regardless of whether a team is applying to the industrial stream. Similarly, internships (with industry partners or otherwise) and work-integrated learning are also strengths, regardless of participation in the industrial stream.

However, because industrial and regular stream initiatives are evaluated against one another (i.e., with funds coming from the same pool), any team proposing to include internships but applying to the regular stream is encouraged to consider—and where possible, fulfill—application requirements that industrial stream applicants fulfill to demonstrate the guarantee of sufficient internship positions and commitment of partners to participate in the program committee.

### 3.8. Management plans

**In brief:** Propose a management structure that is more comprehensive than the program committee required by NSERC. Incorporate diverse perspectives within and beyond your team of co-applicants to facilitate steering and delivery of the program.

Each CREATE program is required to have a Program Committee, which follows these [guidelines](#), and whose purpose is to guide the strategic direction of the CREATE initiative in an advisory capacity. The membership of this committee is defined by NSERC, and should include stakeholders relevant to the objectives of the training program. The Chair of this committee cannot be the applicant, co-applicant, or a direct collaborator. The Program Committee Chair must approve yearly progress reports before they are sent to NSERC.

To complement the Program Committee, we suggest proposing a Management Committee to provide oversight of program operations, potentially with sub-groups if your initiative is multi-institutional. This committee could be chaired by the lead applicant or highly involved co-applicants (possibly on a rotating basis) and include the Program Coordinator(s) as well.



**CREATE is a team grant.** It is important to have a dedicated core team to help you design and deliver the six-year training program. Communication of expectations is important to the successful delivery of the program. Some groups describe plans to establish written agreements with trainees, collaborators, industry partners, and co-applicants ahead of the distribution of funds.

### 3.9. Sustainability

**In brief:** Propose a plan for sustaining one or more components of the program following the end of NSERC's funding.

There is an expectation that CREATE programs be sustained following the end of NSERC's six years of funding. While this has long been considered an unrealistic expectation on the part of NSERC, past committee members have found that this expectation is genuine, and that some teams put forward robust sustainability plans. At a minimum, teams should propose a plan for one or more components of their program (e.g., a new course, yearly workshop) to be sustained.

A strong case for sustainability might provide proof of alignment with the institution, faculty, and/or department's strategic priorities. Corresponding cash and in-kind support from participating Departments and Faculties to maintain all or some components of the training program can support such claims. Teams might also outline a plan for continued or increased contributions by industry or other partners following the end of NSERC funding.

## 4. STRATEGIC BUDGETING

If funded, NSERC permits very little divergence between the proposed expenditures outlined in the application and actual expenditures. CREATE funds should be spent on an annual basis and there is no extension of CREATE funds beyond the six years. As such, do your best to accurately predict the distribution of funds across years and between categories of spending.

Applicants will be required to track the distribution of funds between: 1) stipend versus non-stipend costs; 2) NSE versus non-NSE stipends; and 3) graduate students versus non-graduate student (i.e., postdoctoral fellow and undergraduate) stipends. NSERC will compare these stats (required in your reports to NSERC) to your proposal.

The following sub-sections provide strategic advice for the development of a compelling and competitive budget.

### 4.1. Leverage funds and distribute strategically

**In brief:** Distribute funds widely and leverage where possible to maximize trainees who benefit from the program.

**Wide distribution of funds:** CREATE funds can be distributed to any student enrolled at an institution with representation on the team of co-applicants. In some cases, funds will be distributed across many institutions to graduate students with projects that align with the program. Therefore, funds can be distributed well beyond the trainees of the core team. Reviewers appreciate when the training and mentoring proposed will benefit a large and diverse group of trainees. This includes geographical and institutional diversity. Given this reasoning, and to help deliver the program smoothly, CREATE teams commonly fill all 10 co-applicant spots.



If participation from trainees across multiple institutions is unfeasible, distribute your funds to include as many trainees as is reasonably possible. For instance, speak to departmental, faculty, and awards-based sources of funds to complement NSERC funds. It is uncommon for student stipends to be entirely covered by CREATE funds.

**Keep the focus on graduate students:** Reviewers want to see that most funds are going to graduate students. Because postdoctoral fellows typically receive much larger stipends or salaries than graduate students, including the training of multiple postdoctoral fellows can quickly use of a large portion of the budget. As such, we do not recommend allocating too much of your budget from NSERC funds on postdoctoral fellows, especially if limited to supporting the lead applicant's program. Where postdoctoral fellows are included and receiving CREATE stipends, describe their role in supporting the training of graduate students and delivery of the program.

**Request and leverage industry funds:** When including internships in your program, explore whether the host organization is willing and able to contribute funds towards student stipends. If so, you may be able to leverage these funds with Mitacs dollars, increasing your total budget and capacity to train HQP. See the *NSERC CREATE Quantum Computing* application document in [SPARC's sample grant library](#) for a sample budget that combines industry partner and Mitacs funds. Here, internships are parsed into 4-month segments, with a standard contribution from industry partners and Mitacs, per segment.

## 4.2. Secure matching funds

**In brief:** Secure matching funds to facilitate the delivery of your program and demonstrate its value to partners.

The requirement to spend 80% of NSERC funds on trainee stipends leaves a maximum of only \$330,000 from NSERC over six years to cover all other expenses. Although CREATE funding does not require matching funds, successful programs typically secure substantial cash and in-kind support from participating institutions (departments, faculties, research institutes, and/or VP Research offices), industry partners, and other collaborators. This is particularly true of industrial stream applications.

These cash and in-kind contributions will facilitate delivery of your program, but also speak to the value of your proposed program to these groups and to its alignment with their own needs and strategic priorities.

All UBC-led CREATE programs will be eligible for equal, yearly cash contributions from their campus' VP Research and Innovation office, provided matching or greater funds are secured at the faculty and/or department level. Details of these contributions to proposed initiatives are determined by the VPRI in consultation with SPARC and are communicated with teams each year ahead of LOI submission.

We strongly encourage applicants to review the *Budget Justification* and *Proposed Expenditures* sections of sample CREATE applications (available on [SPARC's sample grant library](#)). We have also provided the sample *Proposed Expenditures* tables from three recently funded CREATE initiatives (two industrial stream and one regular stream) in [Appendix 1](#).

Appendix 1: Sample *Proposed Expenditures* summary tables

## Blockchain and Distributed Ledger Technology (Industrial Stream)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Total Proposed Expenditures</b>	<b>594,500</b>	<b>734,000</b>	<b>629,000</b>	<b>629,000</b>	<b>629,000</b>	<b>629,000</b>
Total cash contributions from university	75,333	73,333	73,333	73,333	73,333	73,333
Total cash contribution from collaborators	364,550	364,550	224,550	224,550	224,550	224,550
Total cash contribution from other sources	5,000	5,000	36,663	36,663	36,663	36,663
<b>Total Amount Requested from NSERC</b>	<b>149,617</b>	<b>291,117</b>	<b>294,454</b>	<b>294,454</b>	<b>294,454</b>	<b>294,454</b>

## Quantum Computing (Industrial Stream)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Total Proposed Expenditures</b>	<b>354,845</b>	<b>689,631</b>	<b>871,686</b>	<b>877,185</b>	<b>852,708</b>	<b>853,960</b>
Total cash contributions from university	69,833	69,833	69,833	69,833	69,833	69,833
Total cash contribution from collaborators	0	82,500	150,000	150,000	142,500	142,500
Total cash contribution from other sources	135,500	251,000	347,260	350,055	339,850	339,850
<b>Total Amount Requested from NSERC</b>	<b>149,512</b>	<b>286,298</b>	<b>304,593</b>	<b>307,297</b>	<b>300,525</b>	<b>301,777</b>

## Living Data Project (Regular Stream)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Total Proposed Expenditures</b>	<b>226,000</b>	<b>377,000</b>	<b>377,500</b>	<b>354,500</b>	<b>355,000</b>	<b>358,800</b>
Total cash contributions from university	58,000	64,800	64,800	41,300	41,300	45,800
Total cash contribution from collaborators	18,000	12,200	12,700	13,200	13,700	13,000
Total cash contribution from other sources	0	0	0	0	0	0
<b>Total Amount Requested from NSERC</b>	<b>150,000</b>	<b>300,000</b>	<b>300,000</b>	<b>300,000</b>	<b>300,000</b>	<b>300,000</b>