STRENGTHS AND WEAKNESSES IDENTIFIED IN NSERC CREATE LOI REVIEWS

MERIT OF PROPOSED TRAINING PROGRAM (60%)

1. Extent to which the research training program will facilitate the transition of the trainees to the Canadian workforce and will promote interaction of the trainees with non-academic sectors, as appropriate

STRENGTHS:	**WEAKNESSES:**
Need for HQP is urgent and well justified Sector is important to BC Potential employers are described Career prospects are excellent Bidirectional knowledge translation Builds on successful models in the US Provides value through innovation and impact Research impacts policy and practice in key areas	Insufficient evidence of demand for HQPs with these skills from stakeholders and employers Lack of identity/brand of graduates from the program – what makes them unique? Job prospects for graduates are unclear Lack of interdisciplinarity Integration of industry partners is lacking

2. Extent to which the program will provide opportunities for the trainees to develop professional skills

STRENGTHS:	**WEAKNESSES:**
Wide range of activities including courses, internships, international exchange, multidisciplinary and pragmatic content Overall vision integrates technical and professional skills Deeply interdisciplinary Incorporates issues overlooked in existing training programs (e.g., data ethics, privacy) Incorporates Mitacs training in soft skills Involves undergraduate students for recruitment pipeline and graduate students as mentors	Does not describe research skills in addition to development skills training Professional skills development needs more emphasis/explanation Professional training led only by non-team members creates impression that these are non-core skills

3. Program's focus and clarity of objectives for short and long term

STRENGTHS:	**WEAKNESSES:**
Proposed administrative structure integrated into the university's operational structure ensures program will be well supported and sustainable Management structure contains academic and industrial members from related disciplines to boost sustainability Commitment from partner universities will further boost sustainability plans Industrial placements ensure acquisition of skills, recruitment and long term sustainability Scaleable to other universities and research areas	Too general; lacks detail on program elements Little is said of plans for long-term sustainability Long term objectives are unclear Program evaluation is (too) conventional

4. Extent to which the program uses novel and interesting approaches to graduate student training in an integrated manner to provide an enriched experience for all

STRENGTHS:	**WEAKNESSES:**
First of its kind worldwide Attends to female representation and the inclusion of minorities Co-supervision to force multidisciplinarity Exposes HQP to co-creation process through immersive project-based experience Neither too broad nor too focused; right balance	Not clear that program adds enough benefit and novelty compared to existing training programs Although the combined curriculum is novel in the aggregate, individual courses and their delivery are traditional No requirements on courses, common seminars, or activities for students which could emphasize the interdisciplinary nature of their training

Will produce experts in their discipline with ability to communicate and collaborate beyond Leverages resources from several existing research centres	
5. The value added that trainees will receive through their participation	
STRENGTHS: Demonstrates development of new elements rather than federation of existing elements Integrates research strengths from partner universities with strong industrial involvement Cross-fertilization between research areas Inclusion of postdocs on supervisory team provides personal development opportunity	**WEAKNESSES:** Not differentiating the program from what is already available Not describing how courses will advance the skills expected of graduates
6. Extent to which the mobility of students and fellows between academic institutions and organizations either within Canada or abroad will augment their research training experience	
STRENGTHS: Internships to MSc students and international exchanges for PhD enables different durations of mobility projects Inclusion of international and industrial collaborators expands training opportunities Mentions that courses will be available across campuses through video links Requiring every student to spend a term at a partner institution adapts a model that has been used for international graduate programs Links with international graduate programs to support its recruitment processes Considerable potential for synergy with international research projects	**WEAKNESSES:** No explanation of timing sequence and its implications Mobility of students not included or not adequately explained
7. Degree to which the training program, while focused mainly in the natural sciences and engineering (NSE) fosters research studies at the interface between the NSE and health or social sciences and humanities	
STRENGTHS: Excellent coordination between diverse units involved in delivery Each graduate student would have at least two advisors from different disciplines	**WEAKNESSES:** Insufficient explanation for how multidisciplinary teams will work in practice and be addressed in recruitment plan
EXCELLENCE OF THE TEAM OF RESEARCHERS (40%)	
1. Quality and impact of team members' past contributions on their respective areas of research	
STRENGTHS: Strong team with a good level of publication Includes several researchers with strong track records and very high international reputation Healthy mix of senior and more junior professors Project director has rich experience in coordinating collaborative research efforts	**WEAKNESSES:**
2. Complementarities of expertise of the members of the group to deliver on the collaborative research and training goals proposed	
STRENGTHS: Collaborators suit needs of the program EDI, at least with respect to gender, is apparent Team members directly collaborate on science	**WEAKNESSES** Member involvement (# of hours) insufficient Unclear which/how team members will be involved in training Lack of explanation how team members with

projects & serve as role models for students Applicant and co-applicants have long and successful experience in graduate student supervison and administration, and many have spearheaded or participated in extensive industrial and inter-university collaborations Combination of early- and senior-career members for sustainability	many of leadership/administrative responsibilities will have time to devote to program Roles of co-applicants not delineated Team members not involved in training beyond student exchange Lack of plan to maintain engagement by students and faculty in the program
3. Quality and extent of past contributions to the training of HQP	
STRENGTHS: Summary of total HQP previously trained by team provided with evidence of quality of training	**WEAKNESSES:** PI appears to have low grad student HQP
4. If applicable, the role of co-applicants currently holding/participating in an on-going CREATE grant relative to their role in the proposed initiative	
STRENGTHS: Well-documented explanation of differences with past CREATE projects in which co-applicants participated Overlap with current CREATEs was clearly distinguished	**WEAKNESSES:** Not fully clear whether this is a new program or an extension of a previous CREATE program
OTHER COMMENTS (university commitment, collaborators, sector addressed, international collaboration, EDI concerns)	
STRENGTHS: Representation of areas of expertise and institutions across Canada Excellenct international and cross-Canada collaboration Governance structure includes program committee, academic advisory committee, industrial advisory committee Distinction between the strategic Program Committee (with external representation) and operational Management Committee is evident; and demonstrates experience and capability with leading such a program Diversity is addressed in a serious way Institutional support is strong, partnerships for internships and exchanges are in place Proposal aligns with the university's research strategy and SFU is committed to ensure that it remains sustainable Substantial external support (both financial and in-kind) from public and private sector	**WEAKNESSES:** No performance measures to gauge training program effectiveness No mention of diversity in recruiting trainees Gender gap in recruiting and in training not addressed Very weak funding from industrial partners calls long term sustainability into doubt