**Business Plan – The Douglas College Maker Space**

**November 2014**

**Executive Summary**

The Douglas College Maker Space will provide space for accessing innovative technologies and methodologies in fabrication. In response to the increasing demand for access—both within the College and its community constituents—the Maker Space will facilitate access to 3D printers and the expertise required to operate and manage innovative technological applications. The goal of the Maker Space is to provide both the College and the community an access point for collaborations that foster the exchange of technologies, expertise, and experiential learning opportunities.

The College will administer the Maker Space in conjunction with the River Market in New Westminster, British Columbia. The operations, budgeting, partnerships, and other commitments will be subject to review annually. Ideally, the Maker Space would be accessible to the community at large through a booking system, but the priority for using the materials within the Maker Space remains with the College and its students. The Maker Space is a unique opportunity for the College to engage with the community by providing a space to access new technologies and encourage collaboration that will draw attention to the College's programs.

Objectives:

The Maker Space's objectives for the first three years of operation include:

* The formation of an environment that will bring people with diverse interests and backgrounds together in a common forum
* The creation of an innovative space to house 3D Printers, the computer hardware necessary to run them, and the expertise to guide novices
* Educating the community about 3D printing (and other and the resources required to fast prototype objects and designs
* Increasing the visibility to Douglas College within its surrounding community
* Providing a space for unique Douglas College course offerings, workshops, or other community events that are relevant to emerging technologies and/or innovative practices.
* The development of a self-sustaining method for supporting the Maker Space through memberships, community events, donations, or otherwise.

Keys to Success:

To be successful, the Maker Space must:

* Create a unique, innovative, technologically robust atmosphere that will facilitate the exchange of ideas and expertise
* Involve College students in the management, organization, and use of the facility
* Create an environment that will not intimidate the novice, but instead foster the collaboration of those with expertise and experience
* Establish itself as a hub for socialization amongst creative students, innovators, and entrepreneurs
* Make the space accessible to community members and the College community by implementing a system for booking or using the Maker Space

Mission:

* As the adoption and implementation of digital fabrication devices—such as 3D printers—continues to grow at an exponential rate, easy and affordable access is quickly becoming a necessity. The Maker Space provides potential entrepreneurs with access to expertise and an environment that encourages economical experimentation and development. At the same time, the Maker Space's connection to Douglas College encourages linkages between education, research, innovation, and application in a community setting, helping incubate collaborative opportunities and showcase applied skill-building.

Risks:

The risks involved with the Douglas College Maker Space are:

* Will there be a demand for the services offered (in New Westminster)?
* Will the popularity of digital fabrication (3D printing and similar fast protyping methodologies) continue to grow, or is it a passing a fad?
* Will students, community members, and Douglas College be able to sustain the Maker Space financially?
* Will the cost of accessing digital fabrication from home drop so significantly that there will no longer be a need for a community-based Maker Space?
* Will the Maker Space be utilized effectively and effeciently by Douglas College programs and other deliverables to make it a worthwhile investment of College resources?

**Services Provided**

The College will provide access to at minimum, three mid-sized 3D printers using a range of extruding materials from ABS to PLA. The College will also provide the servies of a student research assistant with some expertise in 3D printing to staff the Maker Space for ten (10) hours a week, excluding weekends and holidays. Barring maintenance issues or other mechanical delays, the Maker Space will be accessible to community partners during the normal operating hours of the New Westminster River Market.

Technology:

1 x MakerBot Replicator Desktop 3D Printer (Fifth Generation Model) (PLA)

2 x Afinia 3D Printers (ABS)

1 x PintrBot (PLA) - may be rented or taken home by community members

1 x computer for the operation of the 3D printers

Assorted tools needed for printing (scissors, putty knives, allen keys, etc.)

Future Services:

* As the Maker Space grows, more technologies will be added as necessitated by demand. While expansion in the current space is limited, the College will continue to explore alternative spaces to house a larger, more robust Maker Space as demand and College programming warrants.

Other Potential Business Participants:

* The Maker Space will work to integrate itself with events held at the River Market, offering showcases and workshops in the services it offers. The Douglas College Maker Space in New Westminster is the only such facility in the immediate region. At the same time, the Maker Space will seek partnerships and connections with the Vancouver Maker Space and other similar facilitates across the lower mainland to exchange ideas about operations, management, and equipment. Finally, the Maker Space will encourage the involvement of small to medium sized enterprises in the local community who are interested in using the space, forming sponsoring partnerships, or who wish to donate equipment and expertise. The intention is to maximize the uniqueness of the Maker Space in the community to attract a wide-range of potential collaborators and partners.

**Financial Plan**

The following sections lay out the details of our financial plan for the next three years.

Start-up Funding (Year I)

* $5000 for a student research assistant
* $10000 for the purchasing of equipment
* $2000 for materials and day-to-day maintenance
* $2500 for computer hardware and accompanying software
* $100 for leasehold at River Market
* (all of the above funding has been fronted by Douglas College)
* $1000 for utilities

Start-Up Funding (Year II)

* $5000 for a student research assistant (The Digital Cultures Lab at Douglas College will apply for SSHRC funding to cover this and any additional student research assistant stipe-ends)
* $5000 for the purchasing and / or upgrading of equipment
* $3000 for on-going day-to-day maintenance and replacement parts (older equipement requires more money to upkeep)
* $3000 for materials (PLA / ABS)
* $1000 for utilities
* $XXXX for leasehold

Start-Up Funding (Year III)

* $5000 for a student research assistant (The Digital Cultures Lab at Douglas College will apply for SSHRC funding to cover this and any additional student research assistant stipe-ends)
* $15000 for the purchasing and / or upgrading of equipment (in partnership with local SMEs or Funding Agencies)
* $5000 for on-going day-to-day maintenance and replacement parts (older equipement requires more money to upkeep)
* $3000 for materials (PLA / ABS)
* $XXXX for leasehold
* $1000 for utilities

Income:

* Income for the Maker Space will be generated by offering priority access to technology and community booking for a nominal fee. The Maker Space expects to operate at a loss for the first three years, becoming self-sustaining at or before the beginning of the fourth fiscal year January 2018.

**Strategy and Implementation Summary**

The Maker Space has three main strategies:

1. Attract local businesses, students, and community members to the College and focus attention on its ability to lead, foster, and incubate innovative ideas and directions in pedagogy and applied skills.
2. Attract expertise from the community, encouraging community buy-in and divesting the College of financial and administrative liabilities.
3. Building a social environment that provides the impetus for workshops, gatherings, collaborations that bring together businesses, students, and community members with a common goal or interest.

In order to implement these strategies for the first three years of the Maker Space, the College will

1. provide and maintain the latest in 3D printing technology as allowable by mandate, financial position, and funding.
2. provide a student research assistant who can manage and facilitate community and business involvement
3. provide marketing advice