

# Intellectual Property in Applied Research

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## Introduction

Welcome to this module on intellectual property.

## Objective

The objective of this online module is to demystify the concepts of intellectual property with key players within the framework of college applied research programs.

## Context

To help put the notion of intellectual property in college research into perspective, you will follow a fictitious project.

Let's begin by finding out about the project at hand.

A local SME, Smart Paints, wants to produce a new paint using natural pigments, instead of using chemicals. They have already developed a prototype of a paint, but they need help to improve the product. To get more help, they started a collaboration with your college, through the Applied Research Center in Smart Painting.

As you move through the module, you will complete 4 sections that will help you navigate the phases of an applied research project.

You will meet researchers, technical team members, and industry partners to get a feel for how an applied research project unfolds and how intellectual property is addressed throughout the process.

## Section 1: Introductory session

### What is research?

Research is an undertaking intended to extend knowledge through a disciplined inquiry or systematic investigation conducted with the expectation that the method, results, and conclusions will withstand the scrutiny of the relevant research community, regardless of whether or not the undertaking is funded. It may involve living or deceased individuals, their data and their biological or reproductive materials, animals, and even controlled substances or organisms. It can be conducted in different contexts, including course-based research activities. (TCPS 2 (2018). [Chapter 2: Scope and Approach](#))

### What is applied research?

“Applied research is the development of innovative solutions to real-world challenges. It tackles practical problems by applying the latest technology and knowledge to create new products, services, and processes, or improve current products and practices” (Colleges and Institutes Canada. [Innovation](#))

Do you know what the differences are between basic research and applied research?

**Basic research:** the goal is to acquire new knowledge.

Source: OECD. Glossary of Statistical Terms. [Basic Research](#).

**Applied research:** the goal is to address a specific problem.

Source: OECD. Glossary of Statistical Terms. [Applied Research](#).

### The college approach

Colleges and institutes across Canada have become research partners of choice by helping thousands of businesses, entrepreneurs, and social enterprises find state-of-the-art solutions to their challenges. In fact, over 90% of colleges and institutes have applied research offices ready to support their communities and local businesses with innovative solutions ([CICan](#)). Colleges continually work with local small- and medium-sized enterprises (SMEs) to innovate and expand businesses and the social service sector in response to the growing needs of adapting and pivoting ([Colleges Ontario](#)).

Within colleges, the focus is on (1) technological innovation, such as creating a new prototype for a mining company to improve the efficiency of one of its drilling machines, and (2) social innovation projects, for example working with a pediatric service agency to create a new service method and evaluate the service outcomes.

## What drives college research?

“College applied research is driven not primarily by the curiosity of the researcher, but instead by needs and problems identified by firms, governments, and other organizations in the private and public sectors, and is more often oriented toward developing new or improved products, processes, and services that contribute to competitiveness and organizational effectiveness.” (Holmes, K. (2017). [Research at Colleges in Ontario: Learning from the Past and Looking Towards the Future](#). College Quarterly. 20 (3).)

## How is college research unique?

“College research is unique in several respects. One of the distinctive features is that the [teachers] researchers willingly engage in research, with no professional obligation to do so”, as suggested in Piché (2011). In fact, while the primary mission of colleges remains teaching, their involvement in research continues to grow (Fisher, 2010; Lapostolle, 2017). College research is often focused on improving the processes, procedures, and practices, particularly when involving humans. In order to maintain their eligibility for funding and meet the requirements of the funding agencies, colleges must ensure that their research governance is based on good practices. Therefore, it is in the best interests of all those who conduct research—teachers, professional staff and students— to participate in the development of these practices. ([Guide for Responsible Conduct of Research](#)).

## Types of activities in applied research

There are many different types of activities in applied research.

### Technological Innovation

Technological innovations comprise new products and processes and significant technological changes of products and processes.

Source: OECD. Glossary of Statistical Terms. [Technical Innovations](#).

### Social Innovation

Social innovation refers to the design and implementation of new solutions that imply conceptual, process, product, or organizational change, which ultimately aim to improve the welfare and wellbeing of individuals and communities.

Source: OECD. Glossary of Statistical Terms. [Social Innovation](#).

### Knowledge mobilization

Knowledge mobilization is an umbrella term encompassing a wide range of activities relating to the production and use of research results, including knowledge synthesis, dissemination, transfer, exchange, and co-creation or co-production by researchers and knowledge users.

Source: Government of Canada. Social Sciences and Humanities Research Council.

[Guidelines for Effective Knowledge Mobilization](#)

Question: What type of activity does the Smart Paints project fall under?

Answer: Technological Innovation

## Goals of applied research

Part of the college mandate is to work with external partners, but there are other various stakeholders within the research process. These stakeholders include: college researchers, technical and support staff and other research personnel such as administrators and student researchers.

As a result of applied research focusing on practical solutions and validation of findings or processes, colleges have become known for working with local small- to medium-sized enterprises and community and social service partners to deliver solutions for partner-identified challenges.

## What is intellectual property?

The Canadian Intellectual Property Office (CIPO) defines Intellectual Property as a form of creative effort that can be protected through a trademark, patent, copyright, industrial design, or integrated circuit topography.

(Source: Government of Canada. [Glossary of Intellectual Property Terms: Intellectual property.](#))

There are varying types of intellectual property. Here is a list of the different types.

- Trademark
- Patents
- Trade secrets
- Industrial design
- Copyright

(Source: [CIPO](#))

In applied research the following types of intellectual property usually come into play: Copyright, Industrial Design, Patents, and Trade Secrets.

## Copyright

Copyright is the exclusive legal right to produce, reproduce, publish, or perform an original literary, artistic, dramatic, or musical work. The creator is usually the copyright owner.

However, an employer—for example, a film studio—may have copyright in works created by employees, unless there is an agreement in place stating otherwise.

Video: [What is a copyright? \(Canada\)](#)

### Applied research examples

- Software coding
- Business plans
- Website content
- Artistic works

### Notes and considerations

- The creator has the right to dispute modification of the original work.
- Moral rights – detrimental to the integrity of the work; cannot be sold but can be waived.

See: Government of Canada. [What is copyright?](#)

## Industrial Design

Industrial designs are the features of a product that appeal to the eye: the contour of a car hood, the pattern of a knitted sweater, the shape of a computer monitor. Distinctive and attractive features like these give products a competitive edge. If you produce distinctive-looking new products, you will want to register your designs.

### Applied research examples

- Emojis/icons
- Shape of cell phone or an aircraft wing
- Apparel design

### Notes and considerations

- Relates to visual aspects; nothing to do with functionality
- Very underutilized
- Range from very small to very big
- Last for the later of 15 years from the date of filing or 10 years from registration in Canada; if shape is very well recognized, it can be protected as a trademark; for example, shape of a CocaCola beverage bottle, Toblerone chocolate bar shape
- Called “design patent” in the USA
- No functionality with industrial design – it's all in the look

See: Government of Canada. [Industrial designs guide](#)

## Patents

Patents apply to inventions. An invention is eligible for patent protection if it is:

- new—first in the world
- useful—functional and operative
- inventive—showing ingenuity and not obvious to someone of average skill who works in the field of your invention

The patented invention can be:

- a product (example: a door lock)
- a composition (example: a chemical composition used in lubricants for door locks)
- a machine (example: a machine for making door locks)
- a process (example: a method for making door locks)
- an improvement on any of these

Video: [What is a patent? \(Canada\)](#)

## Applied research examples

- New device (aircraft engine, toaster, ski boots, drone, medical device)
- New process (extraction process)

## Notes and considerations

- Novelty includes improvement to existing technology

See: Government of Canada. [What is a patent?](#)

## Trade Secrets

A trade secret is any secret that has some value and is used in business, industry, or trade. Formulas, such as the Coca-Cola recipe or the secret blend of spices in KFC chicken, are trade secrets. Patterns, devices, compounds, processes, customer lists, supplier lists, pricing, business plans, and so on, can all be considered trade secrets. Trade secrets can potentially last forever and there is no mechanism to apply for trade secret protection through IP offices. There are risks to using trade secrets to protect your intellectual property: if someone independently invents or creates the subject matter of your trade secret, you lose the competitive advantage, if the trade secret is disclosed without protection the protection of trade secret is lost.

## Applied research examples

- Recipes/formulas



- New device
- New process
- Computer code

#### Notes and considerations

- Is reverse engineering possible? If so, a patent helps to protect the invention. Trade secrets is more relevant for an invention that is difficult to reproduce, for example, the recipe for CocaCola has been kept secret.
- Not protected at CIPO
- Opposite of a patent which is full disclosure
- Kept confidential before you file for patent/industrial design
- See question above re: reverse engineering; when it is difficult to reverse engineer, trade secret is more relevant (e.g., CocaCola formula)
- Require Non-disclosure Agreements\_(NDA)
- Do everything to keep it a secret
- Confidentiality clauses in employment agreements
- Encryption/password protection; limit the number of individuals with access to information
- No mechanism for registration. Alternative is contractual protection.

See: Government of Canada. [Trade secrets](#).

What kind of approach do colleges take when it comes to IP? **A hands-off approach**

Why do they take this approach? **To benefit the partner and contribute to local economic development**

Colleges take a hands-off approach to IP and instead work with the partner on the applied research to then have the partner retain the IP generated. This is done to help the local economy grow and expand as colleges work with local industry most often.

## Section 2: The industry partner

This section will provide an overview of the relationship and importance of all parties, whereas section 3 will focus specifically on the applied research project being undertaken.

Here is the life cycle of a project.

- Scoping meeting
- Project initiation
- Project development
- Project close

### Scoping meeting

Here is a reminder of the project we are following.

Project: Produce a new paint using natural pigments, instead of using chemicals. The prototype exists, but help is needed to improve the product.

Read through the Detailed Assessment form to find out more about the kind of information that is needed.

Company name: Smart Paints

Company address: Toronto, Ontario

Company Website: [www.smartpaints.paint](http://www.smartpaints.paint)

Contact: Yuri Lee

Title: Innovation officer

Email: [Yuri@SmartPaints.paint](mailto:Yuri@SmartPaints.paint)

Telephone: 555-123-4567

Project Title: Development of paint using natural pigments

Project description: Develop optimized extraction processes of natural pigments, formulate paint, and proceed with testing/validation and improvement. Desired project outcomes:

1. Extraction processes using a variety of pigments
2. Formulations of paint
3. Results from testing
4. Final composition of best formulation that produces a high-quality paint with nice colors

Assistance required from the college:

1. Testing of different extraction processes, using various starting material and solvents (chemistry)
2. Formulate paints (chemistry) and tests on walls (construction)
3. Improvement of prototypes and formulation of final product (chemistry)

Desired Start Date: April 2022

Desired End Date: October 2022

## Project initiation

All stakeholders understand the project and it is time to kick things off.

Here is a checklist of all items that need to be completed at the project initiation phase to avoid misunderstandings and mistakes, manage expectations, and mitigate risk throughout the lifecycle of the project and beyond.

- Non-disclosure agreements (NDA)
- Research Agreement
- Discussion topics - protocols

### Non-disclosure agreements (NDA)

First, all parties need to sign the Non-Disclosure Agreement (NDA), also commonly referred to as a confidentiality agreement, before further details of the project can be shared.

During the development of the technology, the IP has to be kept confidential. To obtain a patent for an invention, the invention must be new to the world and not known to the public. During the project, the IP will be treated as “trade secrets”. Unlike for some other types of intellectual property, there is no formal process for protecting a trade secret. For more information, take a look at section 4.

(Source: Government of Canada. [What is a trade secret?](#)).

### What is an NDA?

A Non-Disclosure Agreement is a contract between two parties (individual people and/or companies and/or organizations and/or institutions) that addresses how the parties deal with confidential information that is shared during a project or transaction:

- the Originating Party (for example, a company) discloses confidential information to the Receiving Party (for example, a college) and the information remains property of the Originating Party;
- the Receiving Party will use the confidential information in the context of the applied research project only;
- the Receiving Party will maintain the confidentiality of any information that the Originating Party claims to be Confidential Information if the Originating Party so requests;
- the Receiving Party will not disclose confidential information for a set period of time;
- It does not apply to any information available in the public domain

- The Originating Party can approve, in writing, to the disclosure of part of the information, or to disclosure for certain reasons or to other parties.

For more information or explanations on NDAs, contact your research office.

## Research agreement

What is a research agreement?

The college and the partner sign legal contracts, typically called research or collaboration agreements, that set out the rights and responsibilities between both parties for the duration of the project. These agreements generally:

- include terms for assignment and ownership of IP
- enable the college to use the results of the project for academic purposes
- describe how information management and communication will be handled
- enable students to acknowledge their participation on their resumes and include the results within their academic works as appropriate, without disclosing any confidential information
- include a work plan with deliverables and timeline

How long does it take to sign a research agreement?

Once the terms of the collaboration have been defined, an agreement can be signed fairly quickly, usually within 1-2 weeks.

Who signs the research agreement?

The agreement needs to be signed by someone who has signing authority for the business or organization entering into the agreement. For colleges, this is usually a vice president or member of the senior executive team. For businesses or organizations, this is usually the owner, president, CEO, or equivalent.

What information can be found in a research agreement?

Sample Research Agreement section headings:

- purpose
- scope
- roles and responsibilities
- IP
- confidentiality
- payment schedule
- data management
- termination
- signatories and contacts

Appendices usually included with a Research Agreement

- Project Plan
- Deliverables
- Timeline
- Budget, including partner cash and in-kind contributions
- Funding agency agreement (if applicable)

If at any time you have questions regarding the agreement, your research office can help you to gain a better understanding.

#### IP issues in teaching and research

Here are a few questions and answers that may come up from the project stakeholders.

##### Student

Question: Can I add this project to my resume?

Answer: Yes, students can describe the project in general terms in their resumes, without disseminating any confidential information.

##### Researcher

Question: Can I use the knowledge and technology generated from this project as an example in my teaching material, now and in the future?

Answer: Yes, while ensuring that confidentiality is maintained and any confidential or proprietary information is not disclosed.

Question: Can I showcase the project at college events or external events, for example, presentations at conferences?

Answer: Yes, provided that you first obtain written approval from the industry partner.

## Project development

#### Throughout the project lifecycle

The activities and preparation at the start of the project are critical to ensure that all stakeholders are on the same page and understand all the terms and conditions.

#### What happens next?

- Regular project management tracking responsibilities
- Regular project update meetings
- Presentation of preliminary results to the industry partner
- Review of the project plan

## Project close

What happens next?

- Results/IP transferred to company
- Confidential information remains confidential.
- The college will use the results of the project for academic and research purposes, without disclosing any confidential information.
- Students will acknowledge their participation on their resumes and may include the results within their academic works as appropriate, without disclosing any confidential information.
- A story about the project may be drafted for marketing and communications purposes, and must be approved by the company before publishing.

## Section 3: The applied research project

The project is confirmed, you got the job, and it is time to start working.

“You will work in collaboration with a team to solve a problem presented by a local SME. You will have a chance to apply your knowledge in chemistry and biology to create a new product that the company will commercialize. Are you ready? Sign and accept the NDA so we can move on!”

Can you explain a little more about what the NDA means?

The NDA ensures that important information in this project, the results, and ideas are kept secret, so that the company can take advantage of it and develop a new paint with added value. In this project you will have access to confidential information, and we need to make sure you understand the important role you play in this initiative. All researchers at the college sign such agreements. It is the same practice for people that work in the research and development (R&D) industry.

### Meeting with the research team

Welcome aboard!

Find out more about each team member's role.

Researcher

I work full-time at the research center and my role is to manage the applied research projects and provide scientific expertise.

Faculty

I teach chemistry at the college and part of my work is to bring my expertise in paints to the project.

Student

I am a student in construction. My role is to test the different prototypes of paint and determine their quality.

### Technical readiness level

There are 9 levels of technology readiness in the development of new products.

When it comes to technical readiness, applied research projects usually fall between levels 2 and 6.

In the case of the Smart Paints project, the level is 4 when it comes to the formulation of the paint and 5 when it comes to quality testing on walls.

Level 1: Basic principles of concept are observed and reported  
Scientific research begins to be translated into applied research and development.

Level 2: Technology concept and/or application formulated  
Invention begins. Once basic principles are observed, practical applications can be invented.

Level 3: Analytical and experimental critical function and/or proof of concept  
Active research and development is initiated. This includes analytical studies and/or laboratory studies.

Level 4: Component and/or validation in a laboratory environment  
Basic technological components are integrated to establish that they will work together.

Level 5: Component and/or validation in a simulated environment  
The basic technological components are integrated for testing in a simulated environment.

Level 6: System/subsystem model or prototype demonstration in a simulated environment  
A model or prototype that represents a near desired configuration. Activities include testing in a simulated operational environment or laboratory.

Pre-commercialization

Level 7: Prototype ready for demonstration in an appropriate operational environment  
Prototype at planned operational level and is ready for demonstration in an operational environment. Activities include prototype field testing.

Level 8: Actual technology completed and qualified through tests and demonstrations  
Technology has been proven to work in its final form and under expected conditions.

Level 9: Actual technology proven through successful deployment in an operational setting  
Actual application of the technology in its final form and under real-life conditions, such as those encountered in operational tests and evaluations.

Source: Government of Canada. [\*Technology readiness levels\*](#).

## Steps in the applied research project

Here is a calendar of the key steps and milestones you and the team will encounter.



Beginning of project: Initial meeting with client (as described in Section 2)  
Months 1 and 2: Design of methodology. Laboratory experiments: extraction of pigments from plants, formulation of the paints  
Month 3: Testing of the paint on walls  
Midway during project: Meeting with client with preliminary results  
Months 4 and 5: Improvement of the paint according to the testing results  
Month 6: Final testing and writing of report  
End of project: Final meeting with client

## Confidentiality

What is confidential information?

Confidential information is information that is property of a party, of commercial or technical nature that is not available to the public and that has a commercial value.

What is confidential in this project?

In this project, the confidential information that cannot be made public or shared is:

- the recipe for the paint
- procedures to extract the pigments
- types of plants used
- types of pigments, their concentration in the paint, etc.
- Any information that could be used by another company and provide it with a commercial advantage.

The only information that can be shared is the general goal of the project and its title. Also, researchers, staff, and students have the right to mention participation in the project in their resumes. Before disseminating any information regarding the project, including the name of the company, she suggests asking the researcher or your research office.

Also, keep in mind that you can discuss confidential information only with people that have signed the same NDA.

Imagine the following scenarios.

### Example 1

A few months into the project...

You have now been working on the Smart Paints project for a few months and you notice the following social media post was sent out by the college.

The College is proud to support Smart Paints in the development of a new paint using natural pigments that provides an environmentally-friendly solution to the market.

Do you think they should have published such a post?

Yes, in this case the post is general and meets the requirements of the confidentiality agreement that states: The only information that can be shared is the general goal of the project and its title. In addition, the post was approved by the company before posting.

#### Example 2

A week later, your friend asks about your project in a text message and wants all the details. They also want to come and visit your lab. What can you answer? The project is going very well, as you know, I apply my expertise in chemistry to develop a new paint, this is very cool! You can visit the lab but I will not give you details.

In this project, the confidential information that cannot be made public or shared is the recipe for the paint, procedures to extract the pigments, types of plants used, types of pigments, their concentration in the paint, etc. Any information that could be used by another company and provide them with a commercial advantage cannot be shared.

You can discuss confidential information only with people that have signed the same NDA as you.

The previous two examples help understand what information can be shared. However, this may vary depending on your project, so it is always prudent to enquire with the researchers or the Research Office.

In general, the research team has the responsibility to protect the confidentiality of the raw data, analysis of the data, and reports on the project.

The laboratory observations are noted in a laboratory notebook that is kept in a safe location and transcribed in the files saved on the college server, with access restricted to the project team only.

### Who owns the invention?

Who will ultimately own the invention being developed?

Researchers and students have no commercial right to the inventions or new IP they may have created. In other words, in this project, the IP will be transferred to the partner at the end of the project.

What can one get from participation in a project?

Researchers and students have the opportunity to develop new skills, contribute to the creation of new prototypes, and support economic development.

Note: Refer to the IP policy at your college to learn more about IP ownership and rights for college employees. For most applied research projects, colleges own the IP created in the context of applied research activities and course-based projects, and transfer the commercial rights to partners in signed agreements. However, colleges have the right to use the new knowledge or technology in future teaching and research, and faculty and students have the right to describe the project on their curriculum vitae.

### What can we do with the IP?

1. IP can be exploited to commercialize a product, in this case, an eco-friendly paint with natural pigments can be produced in large quantities, reach the market, and be available for purchase at your favorite hardware store.
2. IP can be sold to another company, and the original owner of the IP profits from the sale.
3. IP can be licensed (to find out more about licensing, visit section 4: Ask an expert).

## Section 4: Ask an expert

### Frequently Asked Questions

What exactly is an NDA?

A Non-Disclosure Agreement, also commonly known as a confidentiality agreement, is a contract between a person and an institution (for example college). It states that:

- the Originating Party (for example, a company) discloses confidential information to the Receiving Party (for example, the college) and the information remains property of the Originating Party;
- the Receiving Party will use the confidential information in the context of the applied research project only;
- the Receiving Party will maintain the confidentiality of any information that the Originating Party claims to be Confidential Information if the Originating Party so requests;
- the Receiving Party will not disclose confidential information for a specified period of time;
- It does not apply to any information available in the public domain
- The Originating Party can approve, in writing, to the disclosure of part of the information, or to disclosure for certain reasons or to other parties.

How do we know this work has not been done before?

Before initiating the project, the industry partner may conduct a search of publications to assess what work in this field has been done before and how your proposed solution differs from the prior work in this field. This may include reviewing academic and scientific journals, and also conducting market research. Another option is to use the CIPO search tools to review the patent, industrial design, trademark, copyright, and plant breeders' rights registers to see if there are existing registrations or applications. [Google Patents](#) also provides a good starting point. However, keep in mind that most patent applications are not published until 18 months after their filing date. In the case of projects where achieving patent registration is an important goal, a patent agent can assist with comprehensive searches for "prior art" and to make sure that what you plan to do does not infringe on an existing patent.

What is CIPO?

The Canadian Intellectual Property Office (CIPO) is the government office responsible for intellectual property protection. The office administers the application and registration processes for patents, industrial designs, copyright, trademarks, and other forms of registered intellectual property. CIPO also provides modules to all who are interested in the various forms of intellectual property, providing brief descriptions and associated examples. In some of these examples, case studies are provided for a deeper look into the world of IP. This can be found at: Government of Canada. [Canadian Intellectual Property Office](#).

What is licensing?

After intellectual property resulting from a project is transferred to the industry partner, the partner may choose to license it. Licensing is an agreement granting rights to intellectual property in exchange for fees (e.g., royalties, annual fees, etc.). Licenses may be exclusive to one party or non-exclusive, that is allowing the IP owner to grant additional licenses to other parties. Licenses may be bound by geography (e.g., Canada, North America, etc.) or global. Most license agreements include the following:

- A license grant that sets out what intellectual property is being licensed (such as a patent or a work of copyright), how it can be used, the area or field of use (such as a specific industry), and the territory it can be used in (for example a country or region).
- Term – how long the grant of rights will last.
- License fee or royalties. This may be a one-time fee, annual fee, or a percentage or fee for each item produced using the intellectual property, or a combination.
- Improvements clause setting out who will own improvements that are made to the intellectual property.

What kind of protection would be best in this case?

Because securing a patent can be costly and time consuming, some businesses and inventors choose to rely on trade secrets instead. This strategy is often used when the invention has a short lifespan or is difficult to reverse engineer.

Source: Government of Canada. [What is a trade secret?](#)

In this case study, the industry partner may choose to file a patent to protect the technology. The patent application could be directed to the paint composition, methods of extracting pigments, and methods of manufacturing the paint.

The industry partner can also ensure the information remains confidential and use trade secrets as protection, which is why confidentiality is so important in any project.

How are trade secrets protected?

In Canada, there is no federal trade secrets act or equivalent statute. Trade secret law is instead based on common law, or in the case of Quebec, civil law, principles enforced in the courts through claims including torts, such as breaches of contract or confidence. There are also relevant dispositions in Canada's *Criminal Code*. Unlike for some other types of intellectual property, there is no formal process for protecting a trade secret. The protection of a trade secret requires the following, at a minimum:

- that the information has commercial value
- that the information is secret
- that the information has been subject to reasonable measures by the business to ensure that it remains secret

Courts considering whether information is a trade secret, whether an action involves the misuse of a trade secret and how to compensate an owner of a trade secret for its misuse look at factors including the following:

- the measures taken to maintain secrecy
- the value of the information
- the cost in money or time of creating or developing the information
- the ease with which the information could be acquired or developed by others independently
- the degree to which the owner regards and treats the information as confidential
- the degree to which the recipient regards and treats the information as confidential
- whether the recipient ought to have known that the information was confidential
- whether misuse of the information resulted in detriment to the owner

Source: Government of Canada. [What is a trade secret?](#)

How long does trade secret protection last?

Trade secrets can potentially last forever, provided the information actually remains a secret. Once the secret is out, the business value is usually lost and the trade secret protection ends.

Source: Government of Canada. [What is a trade secret?](#)

How do you keep trade secrets secret?

There are numerous ways to keep your valuable business information a secret, including the following:

- Non-disclosure or confidentiality agreements: When you disclose your business information to anyone, have them sign a non-disclosure agreement.
- Confidentiality clauses: Include confidentiality clauses in employment agreements.
- Encryption: Encrypt any valuable business information.
- Password protection: Use passwords to access valuable business information.
- Lock and key: Lock up any valuable business information in a safe.

Remember, once your secret is out, it is impossible to make it secret again. The list above includes only a few ways to keep information secret. It is in your best interest to use all methods possible to ensure your secrets stay secret!

Source: Government of Canada. [What is a trade secret?](#)

What is an IP strategy?

An IP strategy is a plan that is created to align your business goals. You can do so by obtaining IP rights for your products and services and by leveraging existing IP assets, in order to gain a competitive edge in the marketplace and drive sustainable growth. An IP strategy may be focused on a single IP asset type or a mix of many (patents, trademarks, copyright, trade secrets or industrial designs).

Developing an IP strategy can be generally considered in the four following stages and may be applicable to your business as a whole or developed for a specific product or service:

1. understand your business and IP
2. develop your IP operations
3. execute
4. iterate

Source: Government of Canada. [Plan your IP strategy - Developing an IP strategy.](#)

Where can I find an IP professional?

You may wish to hire an IP professional to write and follow through on your application for IP protection and to help you develop effective IP use strategies for your business. These would include when and where to apply for IP protection and how to avoid common IP pitfalls. IP professionals—registered patent agents and trademark agents—are regulated by the [College of Patent Agents and Trademark Agents \(CPATA\)](#). If you are exporting to foreign markets, the [Find a Trade Commissioner](#) page provides a list of trade contacts.

Source: Government of Canada. [Plan your IP strategy - for more information.](#)

## Conclusion

You have completed all four sections of this online module and should have a basic understanding about concepts of intellectual property within the framework of college applied research programs.

In Section 1, you learned about the fundamentals of applied research and intellectual property.

In Section 2, you reviewed how intellectual property is often discussed and addressed with industry partners on college applied research projects.

In Section 3, you walked through the lifecycle of a college applied research project.

In Section 4, you read answers to important questions about intellectual property.

We hope you now better understand the important concepts of intellectual property.

Take the time to visit the resources available in the main menu and to re-do any section, as needed.



# Glossary

## Applied Research

Applied research is the development of innovative solutions to real-world challenges. It tackles practical problems by applying the latest technology and knowledge to create new products, services, and processes, or improve current products and practices ([CICan](#)). Applied Research can take place in three forms:

- Evaluative Research
- Experimental Development
- Action Research

## Basic Research

Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.

## Copyright

Copyright is the exclusive legal right to produce, reproduce, publish, or perform an original literary, artistic, dramatic, or musical work. The creator is usually the copyright owner. However, an employer—for example, a film studio—may have copyright in works created by employees, unless there is an agreement in place stating otherwise.

## Detailed Assessment

A planning tool used to guide and inform the initial stages of scoping a potential project.

## Industrial Design

Industrial designs are the features of a product that appeal to the eye: the contour of a car hood, the pattern of a knitted sweater, the shape of a computer monitor. Distinctive and attractive features like these give products a competitive edge. If you produce distinctive-looking new products, you will want to register your designs.

## Intellectual Property

The Canadian Intellectual Property Office (CIPO) defines Intellectual Property as a form of creative effort that can be protected through a trademark, patent, copyright, industrial design, or integrated circuit topography. (Source: [Glossary of Intellectual Property Terms](#))

## Non-Disclosure Agreement (NDA)

A contract in which one or more parties agree not to disclose private or confidential information that is shared between them while they work together.

## Patents

Patents apply to inventions. An invention is eligible for patent protection if it is:

- new—first in the world
- useful—functional and operative
- inventive—showing ingenuity and not obvious to someone of average skill who works in the field of your invention

The patented invention can be:

- a product (example: a door lock)
- a composition (example: a chemical composition used in lubricants for door locks)
- a machine (example: a machine for making door locks)
- a process (example: a method for making door locks)
- an improvement on any of these

### Project Plan

A formal, approved document used to guide the execution of a project.

### Research

Research is an undertaking intended to extend knowledge through a disciplined inquiry or systematic investigation conducted with the expectation that the method, results, and conclusions will withstand the scrutiny of the relevant research community, regardless of whether or not the undertaking is funded. It may involve living or deceased individuals, their data and their biological or reproductive materials, animals, and even controlled substances or organisms. It can be conducted in different contexts, including course-based research activities. (Guide to Responsible Conduct of Research).

### Reverse Engineering

Reverse engineering is a process in which a product or system is analysed in order to see how it works, so that a similar version of the product or system can be produced more cheaply.

(Source: Collins dictionary. [Reverse engineering](#).)

### Trademark

A trademark is a combination of letters, words, sounds, or designs that distinguishes one company's goods or services from those of others in the marketplace. A trademark is unique. It is important to a company because over time, a trademark comes to stand not only for the actual goods and services you sell, but also for your company's reputation and brand. By registering your trademark, you protect it under law from misuse by others, and you gain exclusive rights to use it throughout Canada for 10 years (a term that you can renew). Trademarks may also have limited protection without registration, and, in the case of both registered and unregistered marks, the trademark must be used to maintain exclusive rights in the trademark.

### Trade Name

A trade name (known also as a “business name” or “company name”) is the legal name under which any business is carried on, whether or not it is the name of a corporation, a partnership, or an individual.

### Trade Secrets

A trade secret is any secret that has some value and is used in business, industry, or trade. Formulas, such as the Coca-Cola recipe or the secret blend of spices in KFC chicken, are trade secrets. Patterns, devices, compounds, processes, customer lists, supplier lists, pricing, business plans, and so on, can all be considered trade secrets. Trade secrets can potentially last forever and there is no mechanism to apply for trade secret protection through IP offices. There are risks to using trade secrets to protect your intellectual property: if someone independently invents or creates the subject matter of your trade secret, you lose the competitive advantage, if the trade secret is disclosed without protection the protection of trade secret is lost.

## Resources

[Canadian Intellectual Property Office \(CIPO\)](#)

[CIPO IP Academy](#)

[CIPO IP Toolbox](#)

[Managing Your Intellectual Property](#)

[Colleges and Institutes Canada \(CICan\) Applied Research](#)

[CICan Innovation](#)

[Government of Ontario IP Resources](#)

[Government of Ontario Report on Intellectual Property in Ontario's Innovation Ecosystem](#)