

COSC 3P99/4F90

APCO 2P99

Guideline Forms

It is assumed that the student has read the documentation on project guidelines and responsibilities available on the Web. <http://www.cosc.brocku.ca/Offerings/4F90/>

It is the student's responsibility to fill these forms and to ensure that they have received their supervisor's written authorization. It is also the student's responsibility to ensure that these forms are given to the Administrative Assistant (MCJ314).

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COSC 3P99 / 4F90 and APCO 2P99 Project Courses

1. Introduction

These notes refer to the organization and evaluation of 2P99, 3P99 and 4F90 projects, being the half-credit and the full-credit project courses for individual students, correspondingly. The intent of these courses is to help prepare you for future large scale projects in industry and graduate school. One of the purposes of the project courses is to assess whether a senior student can work independently towards the delivery of a major piece of work. Each project is supervised by one faculty member ('the supervisor') from the Department of Computer Science and requires the on-going production and submission of written work. It culminates in the submission of the final documents, with an accompanying oral presentation (optional in 2P99/3P99 projects, and required for 4F90 projects) to an Examining Committee, and interested staff and students. Students taking 2P99, 3P99 and 4F90 are strongly encouraged to attend the departmental seminars. This will facilitate the selection of a proper career path in general, and of a suitable project topic in particular.

2. Project Selection

Most successful project topics normally are established during discussions between a student and a potential supervisor. Perusing faculty home pages can give ideas of their research interests and potential topic areas. It is also possible for students to create their own project independently. In such cases, the student must obtain department approval for their project proposal, and find a faculty member willing to supervise it. Topics that are multidisciplinary in nature are also possible, again presuming the proposal is approved and a computer science faculty member is willing to be a co-supervisor. There is a list of available topics on the **Project List** on the department's web site¹.

A student and supervisor must complete a Topic Selection form and the Responsibilities form, obtainable from the Administrative Assistant (room J314). These forms must be returned to the Administrative Assistant after they are signed. Once these have been submitted then the student can register.

2.1. Student Project Proposal

A student wishing to undertake a 2P99/3P99/4F90 project should seek a faculty member willing to act as a supervisor. Projects designed with the involvement of a computer science faculty member are automatically given approval status. Before the student proceeds with the project, the project should be written up in the format given below (2.2). This document will be kept in the student's file. Should the supervisor desire feedback on the proposed project, the proposal can be circulated among the department for comments.

Occasionally, projects can be proposed and co-supervised by faculty or individuals outside of the Computer Science department. These projects should be written up as a proposal (see below) and circulated for department approval. A computer science faculty member must be willing to be a co-supervisor, before the project can proceed.

A student wishing to propose her/his own project, but has not yet found a supervisor, should write a brief (one to two pages) proposal. The proposal should be submitted to the Project Coordinator for approval by the department, which may take up to two weeks. If a student is unable to find a supervisor, the Project Coordinator should be contacted, and he/she will try to find a faculty member or decide whether the project is feasible within our department.

¹ <http://www.cosc.brocku.ca/Offerings/4F90/proposals.htm>

2.2. Project Proposal Format

The format of the project proposal, to be submitted by e-mail, is as follows:

Project Title: Title_text
Project Type: (Research, Development, R&D)
Credit Sought: COSC 4F90, APCO 2P99, COSC 3P99)
Project Status:(Open, Reserved for Student_Name)
Proposer: Faculty or Student_Name, Computer Science
Supervisor: Faculty_Name, Department_Name
Approval: Pending
Hardware: (Mac, PC, Linux, etc.)
Software: (Ada, C, C++, C#, Java, etc.)
Prerequisites: (As required by prospective supervisor)

Description:

The text of description comes here. The description should contain sufficient information to enable faculty to evaluate the proposal on both academic merit and the amount of work required.

References:

Any pertinent papers, products, or web sites, should be listed.

2.3. Selection from Current List

In the case of a student selecting a project from the list of available projects, there is no need for a project proposal. The student must contact the project supervisor and get his/her approval. If this person cannot be contacted for whatever reason, then the Project Coordinator should be approached.

2.4. UCOSP (Undergraduate Capstone Open Source Projects)

A new type of project that might be considered for 2P99/3P99/4F90 credit is to work on a UCOSP project:

<http://ucosp.wordpress.com/about/>

This involves working on an team-based open source project with students from other universities. UCOSP is a new initiative for the department. If interested, please contact the Project Coordinator for further information.

3. Registration

A student must have a project selected prior to registration in the course and supervisor. The student must ensure that he/she has submitted the signed override to the Project Coordinator before registration.

3.1. Withdrawal

Students may withdraw from the course by the date specified in the University Calendar without academic penalty - please check the University Calendar for exact dates. A student will normally not be allowed to select the same project at a subsequent registration.

3.2. Challenge for Credit

The course may be 'challenged for credit'. This challenge is designed to provide credit at the undergraduate level for skills acquired through learning and experience outside the University (see the University Calendar). If challenged, the Department will consider, among other things, the following:

- the project was completed by the challenger while he/she was employed; and
- a satisfactory report is received from the challenger's immediate manager or supervisor regarding the original proposal, stating who was responsible for the work.

The project will still have to be presented orally, and be supported by appropriate reports. All software (including source code) must also be made available to the Department.

3.3. Independent Work

If a student has started a piece of work independently, then he/she should have the project approved through the normal channels (as if the work had not yet been started), and register as normal for the course. There is no onus on the faculty to approve such a project, and in fact additional work may be suggested. This is not the recommended route.

4. Responsibilities

4.1. Student

The student assumes the responsibility for the research, design, implementation and documentation of his/her project. It is the responsibility of the student to arrange, in consultation with his/her supervisor, a suitable schedule of meetings, with the understanding that these will be met, except in extenuating circumstances, such as sickness. It is the responsibility of the student to be thoroughly familiar with the project guidelines and to ensure that the various deadlines are met.

4.2. Supervisor

The project supervisor acts as consultant on such matters as the structure of the reports, and the department's expectations on content. In addition, supervisors help students locate reference material, work out system specifications and solve technical problems related to the project. It is the supervisor's responsibility to make time available, within reason, when the student requests a meeting.

Projects with an external supervisor should have an internal supervisor as well. The internal and external supervisors should have regular meetings with the student, to ensure that departmental requirements are being met in the project.

4.3. Supervisor/Student

Before setting out on the project, the student and/or supervisor must make sure that the necessary hardware / software is available and ready to use. Requests for installation of new equipment should be discussed with the Systems and Network Administrator prior to the project assignment.

4.4. Forms to be Signed

The Project Responsibilities form, Override form and the Topic Selection form (obtained from Administrative Assistant, Room J314) must be completed and signed by both the student and the supervisor.

5. Schedule

5.1. Use of Library

Students are urged to attend one of the courses given by the Library on the effective use of the library's research tools and services. These courses are usually available in September.

5.2. Penalties and Changes in Deadlines

The following tables for 2P99, 3P99 (6 month course) and 4F90 (12 month course) provide recommended due dates for all submissions. Changes will only be considered on written request to the supervisor.

Important: Convocation deadlines may influence the due date for the final submission and presentation.

5.3. 2P99/3P99 Project Schedule:

Documents to Submit to the Supervisor	Submission Deadlines for registration in:		
	Fall	Winter	Spring
Registration	September	January	April
Research Plan / Problem Specification	Late Sept.	Late Jan.	Late Apr.
Literature Search / Design Specification	October	February	Early May
Final Submission	March	July	October

5.4. 4F90 Project Schedule:

Documents to Submit to the Supervisor	Submission Deadlines for registration in:		
	Fall	Winter	Spring
Registration	September	January	April
Research Plan / Problem Specification	November	March	July
Literature Search / Design Specification	December	April	August
Final Submission	August	December	March

5.5. Vital First Submission

Within the above schedule, the Research Plan or the Problem Specification must be completed and a copy deposited with the Project Coordinator as evidence that the project has been started. Failure to do this could result in the recommendation for withdrawal from the course. The appropriate delay is one month for 2P99/3P99 projects, two months for 4F90 projects. Documents submitted late could result in a termination of the project.

5.6. Scheduling the 4F90 Final Oral Presentation

The scheduling of the 4F90 final oral presentation will be done by the Departmental Administrative Assistant on submission of the final documentation. This presentation will be scheduled at least two weeks after the submission of all required reports. Students should note that scheduling a presentation in June, July or August, can be difficult because of summer vacations. Corrections and/or additions may be required as a result of the evaluation before any marks are submitted to the Registrar's Office. The time required for these possible changes should be borne in mind by the student, especially if graduation depends on this course.

6. Intermediate Documents

Intermediate documents may be bound in a manner acceptable to the supervisor. The hardcopy documents for the Examining Committee, if required, should be bound in a single volume, with section separators. Any questions concerning binding should be directed to the Project Coordinator. All required documents must be submitted to the supervisor, who will record the dates of submission and any penalties assessed.

6.1. Research Plan

The Research Plan should briefly outline (5+ pages) the general research direction and include a plan of attack for the problem. A list of milestones and a proposed time frame for them is an important part of this document.

6.2. Problem Specification and Development Cycle

The Problem Specification should describe the requirements of the system. It is a baseline document, which is to be adhered to except with permission of the supervisor. This specification should state, in as much detail as possible, the job to be done. For example, diagrams from a CASE package could be used to add to the clarity of the document. Limits or constraints of the proposed system should also be described. For the development cycle, some form of Time or Gantt Chart should show the expected dates for the Design Phase, Programming Phase and Documentation Phase. These phases may, of course, overlap.

6.3. Literature Search

This consists of an annotated bibliography of relevant work in the field of study. It forms the basis for the final Reference list, and an updated version could be included in the final report. It will include references to research papers in journals and conference proceedings, books, reference and user manuals, and web sites.

6.4. Design Specification

This document defines a solution to the problem described in the Problem Specification. It is the foundation for the system implementation. The design logic described here is detailed enough so that all the required functions, interfaces, files and program module interconnections are defined. The lowest level of program module is specified in terms of the functions it must perform and the interfaces it must have with other modules but the actual internal design of these low-level modules is to be left to the program implementation phase. The design specification could include such items as:

- Program hierarchy: definitions, flow chart and/or descriptions of the modules making up the complete system
- Data hierarchy: definitions and descriptions of the types of files and their structures (as applicable)
- Preliminary input and output formats and screen designs (as appropriate)
- Implementation language(s)

7. Final Submission

The following reports are submitted as part of the final submission, depending on the nature of the project. Students should note that their work will be marked based on these reports and their oral presentation. Changes or additions to these documents may be required by the Examining Committee. The exact composition of the submission is dependent upon the type of project undertaken. The supervisor will discuss the requirement format to be submitted. Some possible components of the report are discussed below.

The supervisor and examiner(s) will require three (3) hardcopy documents, to be printed on standard letter-size paper. The usual costs associated with printing and binding the reports are to be paid by the student.

7.1. Research Report

This Report will normally include the following sections:

- Abstract - a single paragraph
- Introduction.
- Literature Survey. This places the student's work in its scholarly context. Current related work should be described in sufficient detail to give the examining committee a background against which the student's work can be judged
- The body of the report
- Conclusions (possibly including suggested future directions)
- Bibliography
- Appendices (as appropriate):
 - User manual (could be a section instead)
 - Source Code (one only - Department copy)
 - Other project documents as appropriate, one per appendix:
 - Proposal
 - Research plan / Project specification
 - Literature search / Design specification
 - CD/DVD of source and compiled code (one only - Department copy)

Students may find it instructive to look at previous examples of 2P99, 3P99 and 4F90 final reports done in past years. The supervisor should be able to recommend the projects that may be the most appropriate to look at. They can be signed out from the main office.

The student should make use of grammar and spelling checkers.

7.2. Maintenance or Technical Manual

The rationale for this document is to enable other programmers to more easily understand the system's data structures and logic, for maintenance and changes. It is an extension of the Design Specification and will typically include:

- Brief description of the purpose of each module (or procedure)
- The modules (or procedures) invoked by each module (or procedure)
- The modules (or procedures) which invoke a specific module (or procedure)
- File and/or data structure formats (as appropriate)

7.3. User Manual

This should be a concise and clear manual explaining to a potential user how to use the program, demonstrating the various commands available and their results, as appropriate.

7.4. Software

At the discretion of the student and supervisor, all software (both source code and executable code) may be made downloadable from the Web, together with relevant installer programs and installation instructions.

Source code listing must be in one copy of thesis, in an appendix.

7.5 Department web site

At the discretion of the student and supervisor, final results of a project may be placed on the department's web site. This can be a useful way to advertise and promote the student's accomplishments, possibly for future employment.

8. Final Presentation

8.1. Duration

The student should give a succinct oral presentation of the work performed. A maximum of 30 minutes should be allotted for the presentation, followed by a 10 minute question and discussion period. Students should not attempt to present too much material nor too much detail - remember that full details are provided in the documents and reports previously made available. Thus the objective of the oral presentation should be to describe the background, history (including any other avenues that were explored), highlights of the work, and to discuss any conclusions reached.

8.2. Presentation Tools

The best way to present material in a limited time period is to use multimedia tools (Powerpoint, Acrobat,...) that support each of the points made. One screen or viewing frame should normally be used for each technical point and should not exceed 6 to 8 lines of text. In 30 minutes, no more than 15 screens can typically be accommodated, so that the presentation should be tailored around 15 major points. Each screen should have no more than 6 supporting concepts for the presentation of one technical point. If there are more concepts, choose only the 6 most pertinent for illustrating that point.

8.3. Demonstration

Some projects result in systems that can usually be demonstrated. In such cases, thought must be given to the scheduling of a demonstration, either immediately before, during or immediately after the oral presentation. The demonstration should not be considered a replacement for any part of the oral presentation. The student should approach the Administrative Assistant for help in setting up appropriate equipment.

9. Examination/Evaluation

9.1. 2P99/3P99 Evaluation

2P99/3P99 projects will be marked by the supervisor. At the discretion of the supervisor, a final oral presentation may be scheduled.

9.2 4F90 Evaluation

For 4F90 projects, an examining committee (consisting of the supervisor and a member of the Department's faculty) will be formed by the Project Coordinator, typically based on the areas of interest of faculty and an equitable workload. If the supervisor and student wish additional people to be involved in the marking of one of their projects, then they have the prerogative to do so.

The examining committee will be present for the final oral presentation. After the presentation the examination committee will meet in camera in order to arrive at the overall project mark, following the standard evaluation criteria.

After the oral presentation has taken place, the Examining Committee will meet, review the student's performance, and arrive at a base mark for the final submission. Although the supervisor is intimately connected with the project and can evaluate it as a whole, the other examiner will obviously base their evaluations primarily on the written submission and the oral presentation.

9.3. Submission of Final Grade

The final grade will only be submitted to the Registrar's Office once the following points have been satisfied:

- the supervisor has informed the Project Coordinator that the documentation changes (if any) have been satisfactorily completed and approved by the supervisor; and
- the student has returned any Departmental keys, books and/or manuals.

9.4. Evaluation Criteria

The following evaluation criteria will provide some guidance both for the student and for the examiners. The overall project grade is based on two criteria, as evaluated by the examining committee:

- (a) Technical content (weight approx. 60%): Based on overall results, student performance during project.
- (b) Written thesis (weight approx. 40%): Based on the quality of written report, organization, clarity, grammar, spelling, other theses in the past; presentation.

Grade guideline:

A+ 92 Exceptional

- Project much above most projects in quality and creativity.
- High level of independent work, critical judgement, research.
- Work is above and beyond the original project proposal.
- Thesis document is well written, organized, and complete.
- Research results might be publishable, or are close to being commercially viable.
- Verging on MSc work.

A 85 Excellent

- Above average effort and results.
- Proposal objectives completely satisfied.
- Independent work and thought shown.
- Thesis document is good.

B 75 Satisfactory

- Majority of proposal requirements satisfied.
- Some aspects of proposal not completed, or done marginally.
- Much room for improvement in some aspects of project.
- Thesis document may be lacking in organization and quality.

C 65 Pass

- Below average results, but credit will be given.
- A few aspects of proposal completed satisfactorily, but other aspects are unsatisfactory.
- Quality of work is marginal.

F 45 Fail

- Project objectives not met.

10. Publications

Projects of exceptional quality are often suitable for publication as department technical reports, academic conferences and journals. The supervisor has final discretion on the suitability of a project for publication. The decision to publish a project will be a joint one of the student and supervisor. When projects are published in academic forums, both the student and supervisor(s) are included as co-authors of any papers. This recognizes that the project is a joint collaboration between the student and supervisor, as both have contributed ideas, time, effort, and resources to the success of the project.

BROCK UNIVERSITY
Department of Computer Science and Information Processing

COSC 3P99/4F90 / APCO 2P99

(please circle one)

Responsibilities

One of the purposes of the course is to assess whether a senior student can work independently towards the delivery of a major project. The normal roles of the student and of the supervisor are as follows:

The Student: The student assumes the responsibility for the research, design, implementation and documentation of his/her project. It is the responsibility of the student to arrange, in consultation with his/her supervisor, a suitable schedule of meetings, on the understanding that these will be met, except in extenuating circumstances, such as sickness. It is the responsibility of the student to be thoroughly familiar with the project guidelines and to ensure that the various deadlines are met.

The Supervisor: The project supervisor acts as consultant on such matters as the structure of the reports, and the department's expectations on content. In addition, supervisors help students locate reference material, work out system specifications and solve technical problems related to the project. It is the supervisor's responsibility to make time available, within reason, when the student requests a meeting.

Supervisor/Student: Before setting out on the project, the student and/or supervisor must make sure that the necessary hardware/software is available and ready to use. Requests for installation of new software should be discussed with the Chair prior to the project assignment.

I, _____, have read and understood the above guidelines.
Print student's name

Student: _____ Date: _____
Signature

Supervising Professor: _____ Date: _____
Signature

A copy of this form should be retained by both the Supervisor and the Student.

Computer Science Department

COSC 3P99/4F90 / APCO 2P99

(please circle one)

Topic Selection

This is to state that _____
Print Student's Name _____

Student Number _____ Tel. _____ e-Mail _____

is carrying out a project entitled:

as a Research Development Project (Please one)

in Fall Winter Spring Summer of 20____

(Please one term, and enter the year) with the following due dates (see sections 1.3/1.4 of Guidelines):

Research Plan or Problem Specification and Development Cycle _____

Literature Search or Design Specification _____

Final Documentation _____

Supervisor's Signature _____ Date _____

I am familiar with the Project Guidelines:

Student's Signature _____ Date _____

NOTE: This form is to be completed by the student and the supervisor, and then given to the Project Coordinator.

For Project Coordinator's Use Only:

Forms submitted to Project Coordinator _____

Examining Committee: Supervisor, and _____

Marks Record Sheet sent to Supervisor on _____

Research Plan/Problem Specification received on _____

BROCK UNIVERSITY
Department of Computer Science and Information Processing
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(please circle one)

Change Note

The following change in specifications has become necessary in the project entitled:

being carried out by: _____
Print Student's Name

Student Number _____ Tel. _____ e-Mail _____

Old Specification: (If there is not enough room here, attach another sheet)

New Specification, and Reason(s) for the change:

We agree to the above changes:

Student's Signature: _____ Date: _____

Supervisor's Signature: _____ Date: _____

If the above changes will affect any due dates, complete:

	Old Due Date	New Due Date
Research Plan <i>or</i> Problem Specification and Development Cycle	_____	_____
Literature Search <i>or</i> Design Specification	_____	_____
Final Documentation	_____	_____
Project Coordinator's Signature	_____	Date _____



Computer Science Department

OVERRIDE FORM FOR COSC COURSES

CAREFULLY READ ALL OF THE INFORMATION ON THE BACK OF THIS FORM!

Name: _____
Print

Student #: _____

Phone #: _____

Date: _____

Have you requested overrides for any other courses this term? Yes No

Have you requested an override for this course before? Yes No

Course # (e.g. COSC 1P02)	Duration

See back of this form.
Keep a record of your choices.

DO NOT WRITE BELOW THIS LINE

As the course instructor, I recognize that this authorized override form permits the student to register in the course even if the enrolment limit has already been reached.

Authorized for following reason: _____
(to be filled in by Instructor/Advisor)

Instructor's/Advisor's signature: _____ Date: _____

Entered by: _____ Date: _____

Comments: _____

CAREFULLY READ ALL OF THE INFORMATION ON THIS PAGE!

INSTRUCTIONS:

1. Fill in the information requested on the other side of this override form.
2. **IT IS YOUR RESPONSIBILITY TO REGISTER FOR YOUR COURSES IF YOU GET APPROVAL.**
3. Submission of a form with incorrect or falsified information may lead to cancellation of registration

It is **YOUR** responsibility to:

- a) complete this form, which includes writing a note in the space below explaining why you wish/need an override;
- b) register for the course.

Please try registering in the course on BIRT before calling the Computer Science Department. If the override has been processed, you will be able to register in the course.

I need an override because:

Student's Signature: _____

Revised July 2006

Revised November 2012

OWNERSHIP OF STUDENT-CREATED INTELLECTUAL PROPERTY POLICY

Please read policy first; then complete ownership of student-created intellectual property form (page4)

This document is designed to complement the University Policy on Integrity in Research and Scholarship. (<http://www.BrockU.CA/researchservices/integrit.html#knowledge>) In any apparent contradiction between this document and the Policy, the Policy will be the authoritative document. This document is intended as a working guideline for researchers.

23. Ownership of Student Created Intellectual Property and Other Works as well as that Created by Research Assistants and Post Doctoral Fellows

For work done by a student, research assistant or post doctoral fellow, Brock has the following guidelines related to the interpretation of copyright and other aspects of intellectual property rights. These guidelines distinguish, in general, between items done solely by the student and those undertaken as part of a joint research effort.

In the former case, the intellectual property is primarily the student's, but the University reserves certain rights as detailed in the remainder of this section. In the latter case, the intellectual property rights involve the student, the research supervisor (and possibly other individuals as well), the University, and on occasion the financial sponsor of the research. If the work is anticipated to have commercial possibilities, it is required that the parties involved agree in writing beforehand on the sharing of any financial returns.

23.1 Introduction

While no policy can anticipate or cover all possible situations, the University Policy on Integrity in Research and Scholarship and these guidelines are intended to cover the rights of current and former Brock students, research assistants and postdoctoral fellows both while attending the University, and after they leave the University, whether with or without a degree. Similarly, while it is difficult to provide a definitive definition of intellectual property (IP), the Government of Canada (Consumer and Corporate Affairs Canada: "Intellectual Property: What It Means To You") indicates that there are at least six types of IP:

1. Patents, for inventions and the creation of new kinds of technology;
2. Copyrights, for literary, educational, artistic, dramatic and musical works;
3. Trademarks, for words, symbols or pictures used to distinguish the goods or services of one person from those of another;
4. Industrial Designs, for the shape, pattern or ornamentation of an industrially produced object;
5. Integrated Circuit Topographics;
6. Plant Breeders Rights.

At Brock, given our mission and types of undergraduate and graduate programs, the most likely types of intellectual property to be created includes theses, dissertations, cognate essays, research papers, books, poems, plays, scripts, essays, articles, dictionaries, maps, lyrics, musical scores, sculptures, paintings, photographs, films, videos, tapes, computer software, databases, records, tapes, cassettes, educational materials, WEB based materials and inventions (new kinds of technology). To be protected by law, an item must satisfy three criteria: a) it must be an original creation; b) it must be a specific expression of an idea, not the idea itself; and c) the item must be fixed in a physical form. These creations may occur via term papers, theses or dissertations, research or cognate essays, course projects, cases, studio or laboratory assignments, etc.

Ownership rests initially with the creator of the work, unless the creator has been employed to create a work, (e.g. research assistant or post doctoral fellow) in which case the copyright rests with the employer. It should be stressed, as well, that once a piece of work has been accepted for publication by a journal or a publisher, in the absence of an agreement to the contrary, it is the publisher who owns the work. Finally, work created by an individual while a student, remains his or her property for life.

Disputes over ownership, in whole or in part, may occur in team or collaborative work, where many individuals may have contributed to the creation of the work over a lengthy period of time. Disputes may also occur when someone other than the creator (i.e. the student) publishes the work after the student has left the University. Or, disputes may arise over authorship credit or the order of authorship for the work. To avoid such disputes, it is required that all members of a "research group" read these guidelines and complete and sign the "Intellectual Property" form.

23.2 Examinations, Reports and Papers Done as Part of Course Requirements

When work, that is eligible for copyright, is submitted to meet a requirement of a course, the University acknowledges the student's ownership of the copyright, but places the following conditions on the submission of the work to meet course requirements:

- (a)** The original physical document becomes the property of the University. This applies particularly to examination answer scripts, and may also be applied to term papers and other course work.
- (b)** Except for examination answer scripts, the University receives a royalty free, non-exclusive license to make copies of the work for internal use within the University, and to circulate the work as part of the University library collection.

23.3 Theses and Master's Project Reports

As with other papers, the University recognizes that the student holds copyright to the finished thesis. Copies of the thesis shall have on them in a prominent place on the title page the international copyright notice. The student is required to sign a license to the University library and an additional license to the National Library. These licenses grant the two libraries permission to reproduce the thesis and to circulate it, but do not affect ownership of the copyright.

However, the University also recognizes that the ideas in the thesis will often arise from interaction with others. In some cases, this interaction will have been solely with the thesis supervisor; in other cases, a larger research team will have been involved. For this reason, it is understood that the copyright refers only to the written document of the thesis. The ideas themselves—including any advances in theory, data, patentable ideas, or commercial exploitation of the work—may or may not be the exclusive property of the student. For the student who has worked closely with a supervisor, or as part of a research group, the rights to publish, patent or commercially exploit the results of the research are shared with the supervisor and/or the research group, and with the University. In those cases in which the work has been supported in part by research grants or contracts, there may be other conditions affecting any patent or commercial exploitation. (The student should be made aware that such conditions might apply before work begins and bears some responsibility to enquire as to details if they have any concerns.)

23.4 Computer Programs

Computer programs written as part of employment duties, as for example by a teaching assistant, are the property of the employer, as specified in the Copyright Act. Computer programs written as part of course work, a project or a thesis may also have value as a potentially marketable intellectual property. The University recognizes that such software may arise in two different ways, and accordingly has two policies. In setting forth these policies, it is understood that in those cases in which software development draws upon other software owned or licensed by the University, the terms and conditions of the license or purchase must be followed.

- (a)** Where a student develops such software at the direct request of a supervisor, and under supervision, it is assumed that there is joint ownership of the intellectual property rights. In such cases, it is recommended that the individuals involved co-author a working paper documenting the software, rather than including it as an appendix to a thesis or report. Prior agreement between the student and supervisor, that this is to be the case, would be helpful.
- (b)** Where a student develops such software on his/her own, as for example for an independent project in a course, copyright remains with the student. As a condition of using University computing facilities, the student is required to grant the University a royalty-free license to use the software. This includes the right of the University to distribute copies of the software to Brock faculty, staff and students for the University's administration, education and research activities. This license does not include the right to use the software for commercial purposes.

23.5 Research Data

As with computer software, the University recognizes that research is conducted and data are acquired in two different fashions. When the data are acquired as part of a joint or collaborative effort, such as one relying on the equipment within a laboratory, they are not solely the property of the student, although some of the data may ultimately appear in tables or appendices in a completed thesis. As a general rule, such data are the joint property of the student and the research supervisor, either of whom, has the right to make them available to other individuals as well. Both student and supervisor are responsible for insuring that proper acknowledgment of the contributions of the student, supervisor, and other members of the research team is made when the data is released in any form.

When the data is acquired through the student's individual effort, and without the use of University laboratories or funding, then it is usually the property of the student making that effort. However, exceptions may occur when the student collects data using research instruments including interview schedules and questionnaires developed wholly or in part by the research supervisor or by some other person or agency. In such instances the right to ownership and/or use of the data may be shared among the parties involved. Given the range of possible

alternatives it is not possible to set absolute guidelines in advance covering all such situations. Consequently, it is strongly recommended that students and supervisors make clear agreements in advance concerning the ownership and use of data collected in this fashion. Ownership of data may also be affected by the terms of a research contract that has supported the work.

23.6 Equipment

If University resources have been applied to the construction or design of equipment, it is not the property of the student, but of the University. Equipment constructed or designed as part of course or thesis work is the property of the student if the work, materials, and workroom space have been provided by the student or other non-University source. Ownership of newly constructed equipment may also be specified in a research contract that has supported the work.

Please read and complete this section if you are part of a research team (>2).

Return to the Office of Research Services.

The following, taken from pages 106/7 of the 1997/2000 Collective Agreement between Brock University and the Brock University Faculty Association may also serve as a guideline for Faculty.

Agreement under the Brock University Policy on Integrity in Research and Scholarship Pertaining to “Intellectual Property” Understandings.

The University understands that this Agreement is a minimum requirement and expects that Departments may wish to develop more extensive documents that directly apply to their discipline. In this regard, the University understands that “research group” could be for any combination of faculty, staff or students engaged in a scholarly endeavour.

The statements that follow paraphrase the principles set down in Section 5.0 (Intellectual Property) of the Brock University Policy on Integrity in Research and Scholarship. In particular, the signators to this Agreement understand and agree on the expected use and attributions of research ideas and data collected, including publication or commercial exploitation of the results, data deposition and public or other outside accessibility. We have appended any specific details of our understanding and agreements related to the points below, and forwarded copies to the Chair of the Department and to the Dean of the Faculty.

- (1) All members of our research group at Brock University (names, and titles listed below) have completed our annual review of group research initiatives (see attached material).
- (2) With respect to data from work done by undergraduate or graduate students for their theses, we have discussed authorship expectations on publications emerging from these data prior to the start of work, and undertake to continue discussion prior to submission for publication (see attached material).
- (3) We understand that all members of the research group are responsible for insuring proper acknowledgment of each member when the data are released in any form.
- (4) We acknowledge that a complete set of all original research data will be retained by the principal investigator for a period of five (5) years from the date of publication of results based on the data, and that research collaborators will have free access to the relevant data at all times.
- (5) We agree to continue ongoing discussions concerning these matters and will provide an annual update on our understandings.

List all members of the research team below under the appropriate category (if applicable)

Principal Investigator:

Faculty Research Associate(s):	Staff Research Technician(s):
Post-doctoral Fellow(s):	Graduate Student(s):
Undergraduate Student(s):	Volunteer(s):
Research Assistant(s):	Other (Please specify):

OWNERSHIP OF STUDENT-CREATED INTELLECTUAL PROPERTY FORM

Brock University

ORS File #:	
Date:	Student ID#:

PERSONAL INFORMATION

Family Name of Student	Given name	Initial(s)
Department	Phone Number	Email Address

PLEASE INDICATE YOUR STATUS

<input type="checkbox"/> Undergraduate Research Assistant	<input type="checkbox"/> Undergraduate Honours Thesis Student
<input type="checkbox"/> Undergraduate Honours Project Student	<input type="checkbox"/> Graduate Student
	<input type="checkbox"/> Other – Please Specify:

I have read the document “Ownership of Student-created Intellectual Property” and agree with the Brock guidelines on Intellectual Property contained therein.

Student's Signature

Date

Supervisor's Signature

Date

My supervisor and I have made specific arrangements that differ from these policies in the following manner:
(please attach separate sheet if required)

Order of names on publications:

- Researcher first Supervisor first Alphabetic Other (specify order)

Approval of deviation from the policies as noted above:

Student's Signature

Date

Supervisor's Signature

Date

RESEARCH SERVICES

(Approval required if *specific arrangements* are proposed)

Associate Vice-President Research

Date

Send completed copy of this IP Agreement to the following departments:

- Department (copy) Graduate Studies Office (copy) Office of Research Services (original)



Appendix D (Form 100)
Consent to Provide Limited Personal Information About
Highly Qualified Personnel (HQP) to NSERC

NSERC applicants are required to describe their contributions to the training or supervision of highly qualified personnel (HQP) by providing certain details about the individuals they have trained or supervised during the six years prior to their current application. HQP information must be entered on the Personal Data Form (Form 100). This information includes the trainee's name, type of HQP training (e.g., undergraduate, master's, technical etc.) and status (completed, in-progress, incomplete), years supervised or co-supervised, title of the project or thesis, and the individual's present position.

Based on the federal *Privacy Act* rules governing the collection of personal information, applicants are asked to obtain consent from the individuals they have supervised before providing personal data about them to NSERC. In seeking this consent, the NSERC applicant must inform these individuals what data will be supplied, and assure them that it will only be used by NSERC for the purpose of assessing the applicant's contribution to HQP training. To reduce seeking consent for multiple applications, applicants will only need to seek consent one time for a six-year period. If the trainee provides consent by e-mail, the response must include confirmation that they have read and agree to the text of the consent form.

When consent cannot be obtained, applicants are asked to not provide names, or other combinations of data, that would identify those supervised. However, they may still provide the type of HQP training and status, years supervised or co-supervised, a general description of the project or thesis, and a general indication of the individual's present position if known.

An example of entering HQP information on Form 100 (with and without consent):

Name	Type of HQP Training and Status	Years Supervised or Co-supervised	Title of Project or Thesis	Present Position
Consent Received from Marie Roy				
Roy, Marie	Undergraduate (Completed)	Supervised 1994 - 1997	Isotope geochemistry in petroleum engineering	V-P (Research), Earth Analytics Inc., Calgary, Alberta
Consent Not Obtained from Marie Roy				
(name withheld)	Undergraduate (Completed)	Supervised 1994 - 1997	Isotope geochemistry	research executive in petroleum industry - western Canada

Consent Form

Name of Trainee	
Applicant Information	
Name	
Department	Postsecondary Institution
I hereby allow the above-named applicant to include limited personal data about me in grant applications submitted for consideration to NSERC for the next six years. This limited data will only include my name, type of HQP training and status, years supervised or co-supervised, title of the project or thesis and, to the best of the applicant's knowledge, my position title and company or organization at the time the application is submitted. I understand that NSERC will protect this data in accordance with the <i>Privacy Act</i> , and that it will only be used in processes that assess the applicant's contributions to the training of highly qualified personnel (HQP), including confidential peer review.	
Trainee's signature	Date
Note: This form must be retained by the applicant and made available to NSERC upon request.	