2019-20
Graduate Handbook
Mathematics and Statistics
University of Victoria

Graduate committee:
Ryan Budney (Graduate Advisor)
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Amy Almeida (Graduate Secretary)
Jane Butterfield (TA Coordinator)

Student representatives:
Mark Piraino and David Watson

Welcome

I wish all our graduate students the very best for the academic year. You play a vital role in our Department's research and teaching excellence.

In particular, let me offer a warm welcome to our new students. I hope to meet each of you soon. Please consider me a resource as you make the transition to this important next step in your education.

Sincerely,

Ryan Budney
Graduate Advisor, `msgradad@uvic.ca`
Department of Mathematics and Statistics

Preface

This handbook is still a work in progress. It has been prepared by the Department, primarily the Graduate Advisor, but with input from other faculty, staff and students.

The handbook has many aims: (1) to provide a summary of information relevant for grad students in our Department; (2) to point to where more information can be obtained, especially for things that are external or change often; and (3) to clarify expectations our grad program has on students, and conversely that students can have on the program. Having said this, the document is unofficial and should not be read legalistically. Specific questions or concerns should be addressed to the Graduate Advisor.

The UVic Graduate Calendar explains your rights and responsibilities as a graduate student, gives general policies and regulations, and summarizes the services available at the University. If discrepancies exist between this document and the Graduate Calendar, the latter takes precedence, except in the case of more stringent Department requirements.

Questions regarding the interpretation of items in the handbook should be directed to the Graduate Advisor. Corrections (typos, broken links, etc.) and suggestions, especially for places where extra detail is needed, are welcome.

Contents

1 General Information

As our student, your home unit is the Department of Mathematics and Statistics.

Although this handbook is mainly concerned with the things particular to graduate studies in the Department of Mathematics and Statistics, it is important to set some context.

Our Department belongs to the Faculty of Science. But, as is true of all graduate students, your primary academic faculty is the Faculty of Graduate Studies (FGS). Applications, admissions, registration, and records for graduate students are handled by the Graduate Admissions and Records Office (GARO).

Together, FGS and GARO set and enforce the University-wide policies surrounding graduate studies. They also perform a number of other functions. For instance, FGS is involved with recruiting students, the adjudication of student awards, and the co-ordination of interdisciplinary studies. GARO handles transfer credit, program changes, and similar registration-related functions.

Faculty of Graduate Studies: `http://www.uvic.ca/graduatestudies/`.

Graduate Admissions and Records: `https://www.uvic.ca/graduatestudies/admissions/admissions/index.php`

Department Grad Info: `https://www.uvic.ca/science/math-statistics/current-students/graduate/index.php`

Your Supervisor and Committee

Students admitted to our department are automatically assigned a supervisor (or co-supervisors). You and your supervisor should read the Graduate Supervision Policy, found at `https://www.uvic.ca/graduatestudies/assets/docs/docs/policies/Graduate%20Supervision%20Policy.pdf`, which defines the expectations and responsibilities in the supervisory relationship. A healthy student-supervisor relationship is obviously of primary importance for a good experience in graduate school.

The Graduate Calendar

The UVic Graduate Calendar can be found at `https://web.uvic.ca/calendar2019-09/grad/index.html`. The calendar describes academic regulations for your program. If academic regulations change while you are studying for your degree, always refer back to the calendar for your entrance year. In addition, the calendar maintains up-to-date lists of courses, personnel, and important dates for the academic year.

Registration

As a graduate student, you must ensure that you are registered full-time in every term. Here is the naming convention for our academic terms.

term	**months**	
fall	September to December	winter session
spring	January to April	
summer	May to August	summer session

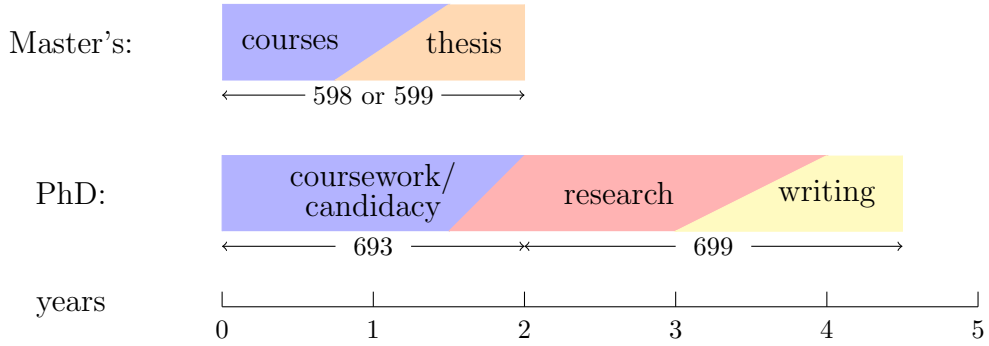
In addition to your planned coursework, you will need to (repeatedly) register in one of the following 'shell courses' that indicate you are preparing for specific graduation requirements. When you do so, you automatically have full-time status as a graduate student, even if you are taking no academic coursework.

course	**purpose**	
MATH 599	thesis	Master's
STAT 598	project	
STAT 599	thesis	
MATH 693	candidacy	PhD
MATH 699	dissertation	
STAT 693	candidacy	
STAT 699	dissertation	

For the PhD program, register in MATH or STAT 693 every term until you have completed your candidacy. Then, register in MATH or STAT 699 every term thereafter.

Students typically register for at least two academic courses in their first term and get all coursework finished in the first half of their degree. This provides training for your

research and helps build early relationships with faculty and fellow students. It also clears up substantial time for focus on research and writing. A rough timeline is shown below; you should discuss details such as course selection and deadlines with your supervisor.



Netlink ID and E-Mail

If you haven't done so already please apply for a Netlink ID at `https:///netlink.uvic.ca`. The Netlink ID is used to access pretty much all computing resources on campus. An e-mail account associated with your Netlink ID will be also created. The university will use this e-mail address for all correspondence with you and may post it on an online directory. Please check this e-mail account regularly at`https://webmail.uvic.ca`. Please be aware that you will get some phishing emails, many pretending to be from UVic, threatening to remove a service if you don't provide your Netlink ID and password. Delete these emails or report them to `mssystem@uvic.ca` if you're not sure.

Our department uses a number of mailing lists to communicate information. For graduate students, the key list is `msgrad-l@lists.uvic.ca`. As a grad student in our department, you may post to this list. There are similar lists for faculty and staff. General information for the department often comes from the address `msdistribution@uvic.ca`. You may also wish to join and monitor various specific lists, such as for seminar announcements. See `https://connect.uvic.ca/sites/science/math/computer_help/KnowledgeBase/Department%20Mailing%20Lists`.

For additional general information on e-mail at UVic, including set-up and support, see `https://www.uvic.ca/systems/services/emailcalendar/students`.

Computers

For an overview of the department and UVic computing resources see `https://www.uvic.ca/science/math-statistics/people/home/intranet/computing/index.php`.

Department and Office Info

The department's general office is DTB A425. This is located in the David Turpin Building, A wing, on the fourth floor; DTB is our building code.

Department offices are located on the fourth and fifth floors of DTB. The second floor is home to the main office of the Math and Stats Assistance Centre in DTB A202. There is also a shared kitchen in DTB A218, with a sink, fridge, and microwaves.

As a graduate student, you receive keys to access your shared office, the lounge (DTB A514), and to the building for off-hour entry. You can sign out keys from the general office at no charge. Please be careful with your keys; if you lose any, there will be a charge to replace them. If you require an audio visual key for teaching or giving a talk, you can sign one out temporarily for the day, or for the term with a $10 deposit. This deposit will be refunded to you once the key has been returned.

You also receive an entry code for the mail room (DTB A427), which contains office supplies, photocopiers, a printer and mail slots. You should check your mail slot regularly.

An office and desk will be assigned specifically to you by the department. Each desk is numbered and so we ask that you do not switch desks. If there is an issue with your assigned office or desk, please contact our admin officer at `msadmin@uvic.ca`. For heating, electrical or furniture repairs, please contact the receptionist at `msrecept@uvic.ca`.

You are assigned a personal photocopier code. Please do not share your copier codes as these codes keep track of the number of copies you make. There is no charge for printing, scanning or faxing. However, high volumes of printing may be questioned and could result in having your photocopier access revoked.

Room bookings can be made by filling out a request form, available on Connect, and submitting it to `msrecept@uvic.ca`.

Here is a table of the key office contacts in the department.

Directory of Personnel				
position	name	office	phone	e-mail
Chair	Boualem Khouider (til Dec 31, 2019)	A418b	721-7435	mschair@uvic.ca
Assistant to Chair	Elaine Cumming	A418a	721-7436	mathstat@uvic.ca
Grad Advisor	Ryan Budney	A516	853-3292	msgradad@uvic.ca
Grad Secretary	Amy Almeida	A425	721-7468	msgstt@uvic.ca
Admin Officer	Carol-Anne Sargent	A425a	721-7459	msadmin@uvic.ca
Systems Admin	Kelly Choo	A420	472-4927	mssystem@uvic.ca
Receptionist	Patti Arts	A425	721-7437	msrecept@uvic.ca

Student Card

Your UVic student card goes by the name 'ONECard'. It is the official identification card for the University of Victoria community. As long as you're affiliated with UVic, your ONECard will be your most important piece of ID. Carry it with you at all times when on campus.

ONECard has several additional features. It acts as your BC Transit bus pass. It is also your library card, recreation facility access card, and UVic Health Services identification. You can also store money on your ONECard to use as a debit card for on-campus food services.

For more information, including adding funds, visit http://www.uvic.ca/onecard/ or the ONECard desk in the University Centre.

Welcome Centre

The Welcome Centre, located in the University Centre, provides orientation programs and other introductory events.

Drop by the Welcome Centre if you need help finding your way around our campus or have a question about UVic.

Tuition and Fees

For degree students at the graduate level, tuition is assessed as a total degree program fee, not as a per course fee. Payment of the fee is broken down into 'fee installments'. You will be charged an instalment once per term you are registered in a degree program. Fees are assessed in September, January and May. There is a minimum number of fee instalments (5 for Master's and 7.5 for PhD). After a maximum number of fee instalments (6 for Master's and 9 for PhD), your tuition drops to a lower 're-registration fee'. However, students who remain registered after exceeding the time limit for their degree (normally five years for a master's degree and seven years for a doctoral degree) will be assessed a program extension fee at the regular fee instalment rate each term.

You will be assessed domestic fees if you are a Canadian citizen or permanent resident. International fees will be assessed if you are studying on a student visa.

For current fees, see the tuition and fees schedule online.

In addition to tuition, you are required to pay other (ancillary) fees as part of student life at UVic and must arrange for appropriate medical insurance.

If you are studying at UVic as a non-degree student, you will pay for individual courses on a per-unit basis.

You are responsible for paying your own tuition and ensuring it is paid on time. If you are receiving funding for your studies, you may use that money to pay your tuition account. This is not done automatically. More information on tuition and fees, as well as payment options, can be found at `http://www.uvic.ca/graduatestudies/finances/tuition/`. That page also links to some additional budgeting considerations, such as living expenses.

Societies

The official UVic society for Students In Graduate Mathematics And Statistics is known as SIGMAS. This society organizes social activities, including outdoor adventures, intramural sports teams, and weekly tea gatherings on Tuesday afternoons. Fundraising is done through solved undergraduate final exam sales. More information can be found by finding them on social media, visiting their web page `http://www.math.uvic.ca/~sigmas/`, or e-mailing `sigmas@uvic.ca`.

The Graduate Students' Society (GSS) advocates for UVic graduate students, and also runs a number of important programs. Each department has a student representative. Students are encouraged to register for the weekly GSS e-mail bulletin. For more information, visit `http://gss.uvic.ca/`.

Our department is an institutional member of both the American Mathematical Society (AMS) and Canadian Mathematical Society (CMS). As such, our department has the right to nominate students as members. In the case of the AMS, student memberships are free and typically automatic; in the case of the CMS, student memberships are currently at a (more than half) reduced price of $20 per student per year. If you are interested in either of these (or other) professional societies, please contact the graduate advisor.

As a member of the Mathematical Sciences Research Institute (MSRI), we can nominate students to attend graduate summer schools. These are typically hosted at MSRI, but can be at other locations, such as CRM. If you are interested in a summer school, discuss this with your supervisor and the graduate advisor.

Graduate Co-Op Program

The University of Victoria offers a co-operative education program and career services to assist students in preparing for post-graduation careers. You are encouraged to discuss such opportunities with your supervisor and a co-op advisor. By completing relevant 4-month work terms during your program you may receive salary, work experience, and a 'Co-Op' designation on your degree. Grad students are also eligible for a shorter 'Work Experience' designation. To get started, visit `http://www.uvic.ca/coopandcareer/co-op/grad-students/index.php`.

Our co-op program is office is located in ECS 204.

Grad students earn 3.0 units of credit for each co-op work term completed. These credits go toward the Co-Op designation; they don't replace the course and thesis credits units you need to complete your degree. Note that you maintain full-time student status during work terms. There is a work term fee in addition to program and other student fees.

If you are interested in either Co-Op or Work Experience, consult with your supervisor and a co-op advisor. If you plan to enrol, please inform the graduate secretary.

Learning and Teaching Support and Innovation

The Division of Learning and Teaching Support and Innovation (LTSI) is at the heart of UVic's commitment to cultivate an extraordinary academic environment. Information on LTSI workshops, courses, and TA conferences can be found at `http://www.uvic.ca/learningandteaching/`.

The Learning and Teaching in Higher Education (LATHE) program focuses on the foundational principles and practical skills involved in post-secondary instruction. It challenges participants to reflect on their practical teaching activities in a scholarly way. LATHE is a certificate program taken concurrently with your graduate program. There is an application process and certificate fee. For more information, find LATHE at the LTSI website above, and contact one of the program co-ordinators.

Some General Campus Info

Bus Passes: All graduate students registered in on-campus courses are automatically given (and pay fees for) a 'universal bus pass' (U-Pass). The U-Pass is valid on all transit routes in Greater Victoria and can be used any time during the semester.

Health and Dental: UVic has a medical clinic, a dentist, and counselling services on campus. In the case of the medical clinic, you should bring your BC Care Card or other provincial services card to each visit.

Insurance: In 1999, a student referendum established an extended health and dental plan for students. Successive referendums have set the price and benefit levels of the plans. The plans are currently carried by Pacific Blue Cross, a non-profit insurance company. You can pick up a benefit booklet from the GSS office, or find more information at `https://gss.uvic.ca/health-dental/basic-information/`.

Athletics: CARSA (Centre for Athletics, Recreation and Special Abilities) is a world-class venue providing state-of-the-art training, recreation, research and learning facilities. CARSA is designed to inspire excellence in physical, intellectual and social activity. Information on recreation classes, intramurals, and Victoria Vikes varsity team sports can be found at `http://vikesrec.ca/`.

Parking: See `http://www.uvic.ca/security/parking/`.

Campus Map: A small reference map is provided on the back page of this guide; additional maps, including those for accessibility, parking, and planned construction, can be found at `http://www.uvic.ca/home/about/campus-info/maps/`.

2 Financial Support

We endeavour to fund all PhD students and as many of our Master's students as possible. Although the funding amounts vary according to students' qualifications and supervisors' research grants, an average funding offer is currently $17,000 for Master's students and $19,000 for PhD students. This includes some teaching assistantship earnings, the duties of which are covered in the section on teaching. Recognizing that tuition and living expenses are rising, we strive to increase this average over time. Of course, a competing factor is the desire to recruit new students; however, the main priority is funding our current students.

Even setting aside TA earnings, there are several sources of financial support for grad students in the department. The main sources are Graduate Awards, Research Assistantships, Donor Awards, and External Awards. Students who receive an admission offer with funding are often paid using a combination of these sources, especially Graduate Awards and Research Assistantships. In particular, this means that payments to students may come in pieces at different times of the term or month (see below).

Note that there is no automatic credit for tuition and fees, even for students with financial support. Be aware of the amounts and deadlines for tuition payments so that you can plan your finances accordingly. For more information on tuition and fees at UVic, see
`http://www.uvic.ca/graduatestudies/finances/tuition/`.

Graduate Awards

The Faculty of Graduate Studies provides awards to graduate students of high academic standing. In amounts greater than $10,000, these are called UVic Fellowships. For more information, see
`http://www.uvic.ca/graduatestudies/finances/financialaid/uvicawards/`.

Our department is given a budget of graduate award money each year. Student recipients and amounts are decided by the department's grad committee, generally in the Spring term. Students need not apply for these funds. In particular, new students are automatically considered based on their application files. Whether for new or returning students, many student support packages are partially funded from graduate award money.

Small graduate awards are disbursed near the start of the applicable term (September,

January, May). Larger amounts are paid on a monthly schedule, with each instalment near the start of the month.

Research Assistantships

Your supervisor may assign research duties to be paid from their research grant. These payments generally occur monthly, on the 18th day of the month. The graduate secretary prepares RA funding schedules for students and can be contacted for any clarification.

Donor Awards

Special awards and scholarships are awarded each year to outstanding new or continuing students. Decisions on these awards are made during the Fall term, starting with a nomination from our department. In most cases, an application is not needed. However, if you are being considered, the graduate committee may ask you for a brief CV, obtain reference letter(s), and/or attach your transcript to a nomination package.

The department has one such award reserved for its own students.

JJEM Graduate Award in Mathematics and Statistics:
One or more scholarships are awarded to second year graduate students of high academic standing in Mathematics and Statistics. Preference will be given to a student who is not receiving any major funding awards.

A few other awards are relevant for students in the Faculty of Science. There is one general (semi-annual) award in this category.

David and Geoffrey Fox Graduate Fellowship:
An award is given to a graduate student in either the Department of Greek and Roman Studies or the Faculty of Science. Selection will be made by the Graduate Awards committee upon the recommendation of the Department of Greek and Roman Studies in even-numbered years, and of the Dean of Science in odd-numbered years.

Other donor awards are University-wide. For a full list of awards and eligibility terms, see `http://www.uvic.ca/graduatestudies/finances/financialaid/uvicawards/`.

External Awards

Canadian students may be eligible for a Tri-Council (likely NSERC) Graduate Scholarship. Non-Canadian applicants and recent students may be eligible for a Vanier Scholarship. Winners of these prestigious awards meet very a high standard for academic excellence and evidence of leadership. For more information on these and other NSERC programs, see `http://www.nserc-crsng.gc.ca/Students-Etudiants/PG-CS/index_eng.asp`.

Early in the Fall term, the University hosts workshops designed to help you prepare a successful NSERC scholarship application. Information about such workshops is generally e-mailed to students. The Graduate Advisor can assist with general questions on the application, and your supervisor can offer advice on your research proposal.

Other awards may be relevant for you, such as scholarships funded by a company or by your home country's research council (the China Scholarship Council, for instance).

If you have earned a major external award before starting at UVic, you should notify the Department and the Faculty of Graduate Studies. As the holder of a major external award, you may be eligible for an additional top-up from UVic in the form of a Presidents Research Scholarship, or a Petch/Strong Award.

If you hold an NSERC fellowship, there are forms that you are responsible for submitting to NSERC. These forms can take some time to process, so make sure you submit them well in advance (neither the department nor the university will prompt you do so).

Travel Grants

Concerning conference travel, the GSS, CUPE 4163 and Faculty of Graduate Studies offer a jointly-funded travel grant program. For application forms and more information, see `https://gss.uvic.ca/about-gss/forms/grants/`.

Many conferences, including CMS meetings, offer student travel support. And, in some cases, you may be able to partially fund your conference travel through a supervisor's research grant; ask your supervisor if this is possible.

3 Courses

Graduate students select courses based on their interests and in consultation with their supervisor or committee. All of our courses are valued at 1.5 units. PhD students must take a minimum of four courses (6 units). Master's students normally take a minimum of six courses (9 units), with the exception that a student in the project stream must take eight courses (12 units).

You are required to obtain a minimum grade of B (73%) for each course.

Course Offerings for 2019-20

Fall 2019 offerings:

MATH 401, 423/523, 435, 436, 447/550, 449/549, 452, 530, 585 (Seminar)

STAT 455/562, 456/562, 457/554, 498

Spring 2020 offerings:

MATH 412, 413, 422/522, 436, 442/551, 446/550, 492/529 (Structured Graph Theory), 493/55X (Topic to be annouced)

STAT 450, 453/558, 458/568

More information, including instructors and (when available) course web pages can be found on the department's web page under 'courses'.

Projected offerings for a given year are known roughly six months in advance.

Cross-listed Courses

Some 500-level courses are explicitly cross-listed in the calendar as 400-level. They may be taken by both graduate and undergraduate students.

Additionally, some courses at the 400-level may be taken as 500-level 'topics' courses. These offerings are often automatic and carry an appropriate subtitle. In other cases, the opening of a 500-level topics section to mirror a 400-level offering may be possible, but

this is subject to permission of the Department.

In cross-listed courses, many instructors require additional work of students in the 500-level cohort (e.g. a class presentation or challenge homework questions).

Some courses have no history of cross-listing, but may be taken at the 400-level. You must obtain permission through a 'graduate course change form'.

Seminar Courses

All Master's students are required to take the seminar course MATH 585. The course is also open to PhD students, although it counts for zero units in this case. Below is a description from a recent course outline.

MATH 585: Seminar

The main purpose of this course is to develop and hone your ability to communicate mathematically. This includes planning/organizing/executing your oral presentations and written documents. We will explore some styles of communication with an eye for common standards in our discipline.

There will be opportunities to practice mathematically-based speaking at different levels of duration and with different styles. A secondary goal for the course is familiarity with mechanics useful for the math or stats grad student. These types of things include literature searches, typesetting, time-management, critical reading/listening, and web-based collaboration.

MATH 585 is normally offered once per year, in the fall term. It is typical for math Master's students to take 585 in first year, and statistics Master's students to take it in second year. Excpetions are possible; discuss your plans for 585 with your supervisor and the course instructor (who is often the graduate advisor).

In addition, there are several subject-specific seminar courses which are listed in the calendar. Although seminars are typically attended by interested students for no credit, the possibility exists to take such courses for credit. Discuss this with your supervisor and the seminar organizer if you are interested. A brief list is given below.

MATH 586: Operator Theory Seminar — Marcelo Laca

MATH 587: Applied Math Seminar — Slim Ibrahim

Course Descriptions

MATH 412: Abstract Algebra II

Composition series of groups, fields, Galois theory. $Remark$: The central topic is Galois theory.

MATH 413: Applied Algebra

(May be taken as 529). A survey of the applications of algebraic structures in computer science, applied mathematics, and electrical engineering. Topics may include: cryptography, switching circuits, finite state machines, state diagrams, machine homomorphism, group and matrix codes, Polya-Burnside enumeration, Latin squares, primality testing. $Remark$: Algebraic coding theory is normally a central topic.

MATH 435: Real Analysis II

Lebesgue measure and integration, Lp spaces, Stone-Weierstrass theorem, Arzela-Ascoli theorem. Hilbert space and Fourier series.

MATH 436: Calculus on Manifolds

Differentiable manifolds and smooth maps. Topics may include embeddings, submersions, fibre bundles, vector bundles, connections, differential forms, differential geometry, Lie groups, transversality.

MATH 442: Advanced Ordinary Differential Equations

(May be taken as 551). Rigorous existence and uniqueness theory; qualitative theory of systems of ordinary differential equations including Poincaré and Liapunov stability; periodic orbits; Poincaré-Bendixson theory; bifurcations; stable, unstable and centre manifold theorems. Additional topics may include: averaging and perturbation methods, chaos, Melnikov method, Hamiltonian systems.

MATH 446: Advanced Partial Differential Equations

(May be taken as 551). Classical linear PDEs : transport, Laplace, Poisson, heat, and wave equations. Scalar nonlinear first order equations, Hamilton-Jacobi, conservation laws, characteristics and notion of weak solutions. Representation of solutions, similarity solutions, Fourier

transform, singular perturbation, travelling waves, power series solutions. Sobolev spaces, elliptic equations, Lax-Milgram, regularity, maximum principle. Linear evolution equations, parabolic and hyperbolic, semi-group theory. Additional topics as time permits.

MATH 447: Nonlinear Programming

(May be taken as 550.) Introduction to theory and algorithm of nonlinear programming. Topics may include: unconstrained optimization theory and iterative methods; Lagrange multipliers and Karush-Kuhn-Tucker theorem for constrained optimization problems; convex programming and duality, penalty function methods.

MATH 449: Scientific Computing

(May be taken as 550.) A comprehensive introduction to the techniques and mathematical foundations of modern methods in scientific computing for science, engineering and numerical analysis. Topics include linear and non-linear systems, eigenvalue problems, approximation of functions, initial value and boundary value problems, finite volumes, finite elements, multigrid methods, convex optimization, Monte Carlo simulations, and data assimilation.

MATH 451: Probability

Language of formal probability, laws of large numbers and applications (Weierstrass approximation), central limit theorem, Borel-Cantelli laws, large deviations estimates, Chernoff bounds, number-theoretic applications, coupling of random variables, the probabilistic method (first and second moment methods), combinatorial applications. Additional topics may include: Martingales in discrete probability and applications.

MATH 452: Stochastic Processes

(Also offered as STAT 552). Introduction to the branch of probability theory which deals with the mathematical analysis of systems that evolve in time while undergoing chance fluctuations. Main topics include random walks, Markov chains, Poisson processes, birth and death processes, renewal theory. Examples illustrate wide applicability of stochastic processes in many branches of science and technology.

MATH 462: Topics in Number Theory

(May be taken as 520 or 562). A selection of topics which may include compositions and partitions, geometry of numbers, rational approximation, distribution of primes, order of magnitude of arithmetic funtions, proofs of the Prime Number Theorem and of Dirichlet's Theorem on primes in arithmetic progressions, continued fractions.

MATH 465: Topics in Topology

(May be taken as 540). Topics chosen from point set topology, introduction to algebraic topology, classification of surfaces, homology theory, and homotopy theory.

MATH 477: Stochastic Financial Modelling

Brief review of financial concepts (hedging, arbitrage, options etc.), Martingales, drift and volatility, the binomial model, Brownian motion, the Black-Scholes option pricing formula and some of its extensions.

MATH 510: Abstract Algebra

Modules, advanced linear algebra, the structure of rings, background material on set theory, including Zorn's Lemma, introduction to categories. $Remark$: unofficial description.

MATH 522: Combinatorial Mathematics

(Cross-listed with 422). Permutations and combinations, generating functions, recurrence relations, inclusion-exclusion principle. Mobius inversion, Polya's enumeration theorem. Ramsey's theorem, systems of distinctive representatives, combinatorial designs, algorithmic aspects of combinatorics.

MATH 523: Graph Theory

(Cross-listed with 423). An introduction to the combinatorial, algorithmic and algebraic aspects of graph theory.

MATH 530: Real Analysis

Abstract measure and integration, product measures, measures on locally compact spaces and the Riesz representation theorem, the Stone-Weierstrass theorem.

MATH 531: Functional Analysis

Normed spaces, Banach spaces, bounded operators; open mapping, closed graph and uniform boundedness results; topological vector spaces, Hahn-Banach theorem, the weak-* topology, weak-* compactness, inner product spaces, Hilbert spaces, operators on Hilbert spaces, partial isometries, compact operators; the Spectral theorem for compact operators, Banach algebras, the Gelfand transform. $Remark$: unofficial description.

MATH 532: Introduction to Operator Theory

Classes of operators on Hilbert space: bounded, self-adjoint, normal, unitary, projection, isometry, partial isometry operators; Norms and completeness; Hilbert-Schmidt, compact, trace-class operators; spectral theorem for compact self-adjoint operators; functional calculus and spectral theory; unbounded operators. $Remark$: unofficial description.

MATH 538: Complex Analysis

Topics chosen from: conformal mappings, the Riemann mapping theorem, the maximum principle, infinite products, Picard's theorem, normal families, Hp-spaces, approximation by rational functions, the Riemann zeta function, analytic continuation and Riemann surfaces.

MATH 563: Algebraic Number Theory

(Cross-listed with 463). An introduction to algebraic number theory: rings of integers, prime factorization, finiteness of ideal class group, Dirichlet unit theorem, splitting of primes, structure of inertia groups, elliptic curves.

MATH 575: Topics in Mathematical Biology

(Cross-listed with 475). Possible topics include population modelling, infectious disease dynamics, models of neuronal networks and models of gene regulatory networks.

STAT 450: Mathematical Statistics II

Brief introduction to decision theory, point and interval estimation, hypothesis testing; regression and correlation, analysis of variance. Emphasis on the mathematics of statistics.

STAT 454: Topics in Applied Statistics

Possible topics include: Bayesian statistics, bioinformatics, biostatistics, clustering methods, longitudinal data analysis, mixture models, robust statistics, spatial statistics, sampling theory and methods, statistics for imaging, and statistical computing.

STAT 553: Multivariate Analysis

(Cross-listed with 456). Multivariate normal distribution; tests on covariance matrices; multivariate analysis of variance; discriminant analysis; classification analysis; cluster analysis; principal component analysis; factor analysis; multivariate regression analysis; canonical correlation; graphical procedures.

STAT 554: Time Series Analysis

(Cross-listed with 457). Stationary time series; non-stationary time series; transformation; smoothing techniques; autoregressive moving average models; integrated models for non-stationary data; multiplicative seasonal ARIMA models; spectral analysis; linear filters.

STAT 558: Design and Analysis of Experiments

(Cross-listed with 453). Basic principles of experimental design; factorial designs; block designs; fractional factorial designs; response surface designs; nested and split-plot designs; optimal designs; techniques of analysis of variance; fixed effects models; random effects models.

STAT 559: Survival Analysis

(Cross-listed with 459). Theory and techniques for censored and truncated data; nonparametric estimation of survival and cumulative hazard functions and associated hypothesis tests; semiparametric proportional hazards regression; survival models; regression diagnostics; inference for parametric regression models.

STAT 562: Distribution-Free Statistics

(Cross-listed with 455). Classical distribution free methods: tests based on the binomial distribution, contingency tables, methods based on ranks, statistics of the Kolmogorov-Smirnov type. Computing intensive distribution-free methods: re-sampling methods and empirical likelihood methods.

STAT 563: Topics in Applied Statistics

(Also offered as BIOL 563). Survival analysis, generalized linear models, multivariate normal models, resampling methods, nonparametric and robust methods, meta-analysis, miscellaneous techniques.

STAT 568: Generalized Linear Models

(Cross-listed with 458). Exponential family of distributions and generalized linear models; maximum likelihood estimation and inference; regression diagnostics; logistic regression; nominal and ordinal logistic regression; Poisson regression and log-linear models; clustered and longitudinal data.

Pro forma and Directed Studies Courses

A pro forma registration form is required to assign a course number for specialized courses not shown in the calender. It is typical to use 'MATH 581: Directed Studies' as a shell. The graduate secretary can help you with the process of setting up a pro forma registration.

If you are planning to attend an intensive short course or summer school hosted off-campus and wish to have it counted as UVic course credit, speak to the graduate advisor well in advance. Graduate transfer credit or a pro forma may be used, depending on the situation.

4 Candidacy Exams

PhD students are required to pass a multi-part candidacy examination within the first two years (24 months) of study. The format of the exam components is decided in a meeting with your supervisory committee during the first six months of study.

Written Exams

The default candidacy plan is a series of written exams in three subjects. Each exam typically lasts three hours. Standard subject exams are:

- Foundations of optimization
- Numerical analysis
- Ordinary differential equations and dynamical systems
- Partial differential equations
- Real analysis
- Topology
- Algebra
- Combinatorics
- Graph theory
- Probability and stochastic processes
- Statistical inference
- Applied statistics

To request an exam, complete a request form, available online and on the Connect site. Exams are normally held in January, May, or August.

For each of the above subjects, there is a standard syllabus and sample exam(s) available on Connect. Your exam invigilators should be contacted for more detailed information on the topics to be covered, especially optional topics to be emphasized or omitted.

It is your right to know the grading structure of the exam and what expectations exist to pass the exam. Please ask your supervisor and exam invigilators about what to expect in this regard.

Substitutions

Your committee may agree to allow an extra course, with first-class minimum grade, in place of one written candidacy exam. This is intended for topics which are for breadth and rather distant from your primary research area. This option is also intended for situations in which you are the only student interested in a candidacy exam at a given time, and where there is a corresponding course.

Alternatively, your committee may recommend a "dissertation preparatory examination" as one candidacy component. This examination typically involves a written document, accompanying oral presentation, and answering questions on the topic. In order to pass the examination, you'll need to demonstrate to your committee, through the written paper, the presentation and the answers to the committee's questions, that you are prepared to start work on your dissertation.

The written document should demonstrate your mastery of the corresponding topic. It generally consists of a study of material needed in preparation for your dissertation work. Some possibilities for the content of the paper are:

- a research plan for a dissertation, setting out methodology and background work, putting it in context with related work;
- a literature survey setting out prior knowledge in an area and presenting it in a unified and thoughtful way;
- a new result, typically as an initial step in your dissertation research.

This list is meant to suggest the scope of possibilities, rather than an exhaustive list.

A date for the examination should be selected and agreed upon by you and your supervisory committee. The written paper should be submitted to the committee at least 10 working days before the date of the presentation. The presentation may be fairly brief (about half an hour), leaving time to answer questions from the committee.

Feedback

Your supervisor or written exam invigilators will endeavour to inform you of the result of your exam within one week. You may request to view written exams up to two weeks after you are informed of the results. Additional feedback on the exam and how it fits with your overall candidacy progress can be discussed with your supervisor or the graduate advisor. If you believe the result of your exam was incorrect or unfair, contact the graduate advisor or department chair as soon as possible.

Extensions

If you anticipate difficulties meeting the 24 month deadline for candidacy, you may discuss this with the graduate advisor. You may be directed to complete a candidacy extension request form. The Faculty of Graduate Studies typically approves such requests, provided there is a concrete plan to finish the following term.

5 Teaching and TA Work

Teaching Assistantships

A teaching assistant (TA) is an individual who assists with instructional responsibilities. Every year, our department has a number of TA positions available in the fall and spring terms, as well as a much more limited number of positions available in the summer term. Graduate students are encouraged to apply for TA positions according to their qualifications, career goals, and financial need.

When recommending TA appointments to the department, the TA Coordinator's primary concern is the quality of our courses. Necessary qualifications for each TA position are outlined in that position's posting.

The terms and conditions of TA positions are covered by the CUPE Local 4163 (Components 1 & 2) Collective Agreement, and up-to-date pay rate information can be found there.

Important Dates

In accordance with the collective agreement, we normally post positions no later than twelve weeks in advance. For example, Fall positions are usually posted in early June. All current and incoming graduate students in the department will be notified of this posting by the department's Administrative Officer, so make sure to read any correspondence from `msadmin@uvic.ca` carefully. Applications are submitted through an online form, and you will need to fill out a new application for each term in which you would like a TA appointment.

Because these postings are so early, there could be several weeks between the job posting date and the application due date. This can make it easy to forget about, so please do not put off your application until the last minute: applications received after the posted deadline are considered late, and late applicants might lose their priority ranking.

Types of TA Positions

A typical TA appointment for a first-time TA is approximately 98 hours per term, spread over 12 - 13 weeks depending on the courses involved. This mean a new graduate student can generally expect 196 hours of work in their first year, possibly more if enough positions are available.

There are three general types of TA positions, and a TA Appointment can be divided between one or more of them:

- **Markers** are TAs who mark for a specific course. For large courses, there is generally a team of markers who either work together to team-mark assignments or who divide the assignments between them and mark individually. Markers must be able to accurately evaluate student work in a specific course. Markers report directly to the course instructor or course coordinator.
- **Assistance Centre Tutors** are TAs who tutor in our Math & Stats Assistance Centre (AC). Tutors must be able to assist with a variety of first- and second-year math and/or statistics courses. Tutors report to the Math & Stats Assistance Centre Manager and Coordinator.
- **Tutorial leaders** are TAs who lead 50-minute "tutorials" for specific courses. The structure and size of tutorials depends on the course and on the course coordinator. Tutorial leaders report directly to the course coordinator, and in some instances a Senior Lab Instructor.

A first-time TA this is usually appointed to mark for one or several courses, although TAs who come to us with previous teaching experience are sometimes interviewed for a position in our Assistance Centre in their first term. It is helpful to spend your first term marking for our courses before jumping into the Assistance Centre – it gives you a chance to see how our instructors run our courses and what our students are like.

After a term marking for the department, you might consider applying for an Assistance Centre position. There is an interview process for prospective AC tutors, to make sure that we hire TAs with reasonably broad content knowledge who also have strong communication skills and are comfortable interacting with students, including students in distress. You are also welcome to continue applying only for marking positions if that is what you prefer to do – experienced markers are always in demand! Most first-time AC tutors also continue to mark for at least one course.

After at least one term in the Assistance Centre you would be eligible to apply for a position leading tutorials. Any graduate student who is interested in a career in academia or education is strongly encouraged to apply for a tutorial leader position, particularly because it is unusual for a graduate student to be considered for a Sessional Instructor position (see below) if they have not yet led tutorials.

Some of our instructors prefer tutorial leaders who also mark for the course, and the Assistance Centre manager likes to have some AC tutors who are also leading tutorials, and so most of our senior TAs have TA Appointments that are a combination of two or more types of work.

TA Training and Professional Development

Every time you start a new type of TA position, you will be required to attend a training workshop with the TA Coordinator (Jane Butterfield). There is also a CUPE Orientation session every term, which we schedule to take place before or after the workshop for new markers. Attendance at required training sessions is considered time worked, which means you are paid to attend these workshops.

In addition, the TA Coordinator periodically offers professional development workshops designed specifically for Math & Stats TAs and future educators. The Learning & Teaching Centre also offers workshops throughout the term, some of which are appropriate for Math & Stats TAs. You are also encouraged to meet with the TA Coordinator if you ever have questions or concerns about your work or your supervisor, if you want advice about your work, or if you just want to talk about education in general.

If you are leading a Tutorial, you are encouraged to request a teaching observation from the TA Coordinator at some point. This is especially important if you are likely to request a letter of recommendation in support of teaching! If you would like a formal record of the observation, you can request a form or a letter. This is for you to include in your Teaching Dossier; unless you request it, an observation form will not go into your TA file or your student file, and will not be used for subsequent TA appointments. You might request the form to be made available in support of your application for a sessional appointment, or you might include it in your TA applications in subsequent terms, if you wish.

Resources

Mailboxes: Most supervisors make extensive use of the department mail room (DTB A427) mail boxes for passing work to their TAs and getting work back from them. Make sure you know where your mailbox, your supervisor's mailbox, and any other relevant mailbox is (for example you might collect work from your students to pass on to a different TA, or you might be handing in grade sheets to the Senior Lab Instructor). See the General information section.

Photocopier: Most TAs will not need to make photocopies, but if you do, you have access to the photocopiers in the department mailroom. Again, information on this can be found under General information.

Textbook: Ask your supervisor if you will need a copy of the textbook in order to do your job. If so, anyone in the department's general office (DTB A425) should be able to check one out to you. It is important to return the textbook at the end of the term, as we get only a few copies from the publisher.

Marking supplies: You can find coloured pens for marking in the department mail room. Please be considerate of others in the department who also need red pens! Most markers will also be responsible for recording student grades, which often requires computer access. Please let the TA Coordinator know if you do not have access to a computer that is private enough to maintain the confidentiality of your students' records.

If there are any other resources you need to do your job, but cannot find, please ask!

Hiring Priority and Appointment Sizes

The Department of Mathematics & Statistics follows the Appointment Priority Policy A laid out in the CUPE Local 4163 (Components 1 & 2) Collective Agreement. In particular, graduate students from our department who are in their first or second year of a Masters program or their first through fifth year of a Ph.D. have priority over other graduate students, undergraduate students, and non-students. In accordance with the Appointment Procedures in the Collective Agreement, appointments to particular positions are made based on the qualification and ability of the candidates in question; if two or more applicants are tied within a priority category and are otherwise equally qualified for a particular position then seniority will be the tie-breaker.

TA work and other teaching opportunities play an important role in the professional development of future academics. We recognize, however, that our graduate students are students and researchers first, and expect that our graduate students will usually spend at least half their time on course work and research. Hours spent on TA work is in addition to this time, and so graduate students may request appointments of less than 98 hours in a term if they wish. On the other hand, it is unusual for a graduate student's TA appointment to exceed 140 hours in a given term. Generally speaking, graduate students' appointments in any given term will not be less than in previous terms (unless they request it); this is so that students' wages are as predictable as possible from year to year.

Graduate Student Sessional Appointments

Sessional Instructors are full teachers: they give lectures, holds office hours, and design assignments and tests in collaboration with other instructors and their coordinator or faculty mentor – see below. This is a more intensive teaching experience than TA positions, and for graduate students who are interested in pursuing a career in academia a Sessional Appointment can be valuable work experience.

Sessional Appointments, as you can imagine from that description, require a significant time commitment. The terms and conditions of Sessional Lecturer positions are covered by the CUPE Local 4163 (Component 3) Collective Agreement, and up-to-date pay rate information can be found there.

In the fall of each year, usually late in the term, a form is distributed to Graduate Students asking them to declare an interest in teaching during the following academic year (May through April). You must have permission of your supervisor to be considered for a sessional teaching assignment. A teaching CV will also be requested along with completion of this form.

Graduate students, post-doctoral fellows and continuing sessionals have priority appointment processes; offers will generally be made to Graduate students in late January, late May, and late September for teaching in the following term.

Any remaining positions are posted in an open competition at the beginning of February, June, and October. This posting is sent to all graduate students, continuing sessionals, and other interested parties. This position usually closes within two weeks and offers are made within two weeks of the position closing. Applicants for these positions will also be

considered for any additional positions that may open up after the posting has closed.

Guiding Principles of Grad Student Teaching Requests

- Sessional teaching is an important component of a doctoral student's teaching dossier, and an integral part of their learning. The Department of Mathematics and Statistics strives to ensure that PhD students graduate with a well-rounded teaching dossier.
- Coursework, research and thesis completion is, however, the primary objective for all students and must remain paramount. In order to support a well-rounded student development, the department's practice is to limit sessional teaching assignments to 1 section per academic year. Under special circumstances, a second section may be offered based on need, and supervisor approval.
- Students will have demonstrated teaching effectiveness gained from working in the Assistance Centre, leading tutorials or labs or other teaching experience prior to being offered a sessional teaching appointment;
- Initial teaching assignments will often be made in Spring or Fall in co-ordinated courses in order to provide supervision and mentorship throughout the first assignment;
- Faculty mentors will be assigned for all summer teaching assignments;
- Master's students will be considered for sessional teaching work provided that they have outstanding tutorial or lab experience, and provided there is an appropriate assignment available.

Support for Graduate Student Sessional Instructors

Faculty mentors and course coordinators will guide and mentor grad student sessional instructors, as they would any other sessional instructor assigned to their course. For questions of course design (including course outlines) and assessment instruments (particularly midterms and final exams), your course coordinator or faculty mentor is the best resource.

The department's TA Coordinator and Teaching Specialist, Jane Butterfield, is also happy to meet with you at any time in the term. Drop by for a casual conversation, ask for a second opinion on a tricky student email, or request a teaching observation to include in your teaching dossier. She can also recommend further resources, such as Learning & Teaching Support and Innovation (LTSI) workshops or presentations at the Centre for Academic Communication.

The LATHE Graduate Certificate pairs well with sessional teaching work. Although it is not a requirement for teaching, Doctoral students can take LATHE the year before a sessional appointment to get a head start on the scholarship of teaching. A brief summary of LATHE can be found in the introductory material of this handbook, and more information can be found at `www.uvic.ca/learningandteaching`.

6 Project/Thesis/Dissertation

Graduate students in our department finish their programs with a substantial written document. The name of the type of document depends on your program. Students enrolled in the Master's program write a 'project' or 'thesis'. Students in the PhD program write a 'dissertation'. Any of these may be informally called a thesis.

Style and Structure

There is a LaTeX template which is compliant with UVic's thesis formatting standards. This can be found at `http://libguides.uvic.ca/uvicspace/etds/latextemplate`.

A very comprehensive resource for mathematical writing can be found at Doug West's web page. The external link is `http://www.math.illinois.edu/~dwest/grammar.html`.

Following is some very general structural guidance. It should be interpreted as loosely as possible. Typically, an introductory chapter outlines or sets up the main results and findings of your thesis. (In a timeline of writing, this can be done close to last.) Background material might come in the next one or two chapters. (This can be written early on, since it relies heavily on existing literature.) Detailed findings follow in the body of the document. This is where the bulk of new work occurs. It is nice to include a forward-looking conclusion, where some possible future directions of the research might lead. (Such a chapter is obviously best left until after you've reflected on the body for some time.) Your particular topic may be suited to a slightly different style of presentation or ordering of writing; you and your supervisory committee know best here. FGS has some generic resources at `http://www.uvic.ca/graduatestudies/resourcesfor/students/thesis/index.php`.

If you publish a paper or series of papers from a part of your thesis, please attempt to set the work into proper context of a larger document. In fact, it may be advisable to construct publications after the corresponding thesis chapters are in mostly stable written form. Discuss a publication strategy with your supervisor.

Some Planning Info

In consultation with your supervisor or committee, it is useful to have at least a somewhat formal thesis completion plan. In particular, you should anticipate many rounds of edits

in the late stages of your thesis writing. Your supervisor (and possibly other committee members) may want drafts to annotate with their comments. It is important to set a schedule of drafts and edits with your committee.

UVicSpace

When finished, your thesis or dissertation will be placed in the University of Victoria's electronic collection, UVicSpace. This is a virtual shelf of published projects, theses and dissertations on the library website. Some students will have publishers interested in publishing their work, or have sensitive patent information in their thesis. If this is the case, you will likely want to (at least temporarily) withhold your work from publication in UVicSpace. To do this, you can complete a Withholding form.

7 Finishing Your Degree

Preparing to Graduate

Inform the graduate secretary in the first month of the term you wish to finish. As a reminder, each term the graduate secretary will e-mail students with deadlines and information regarding defending that term.

You should discuss a timeline for completion with your supervisor. In particular, plan a suitable date for your final oral exam (defense). To allow time for changes your committee might request, this date should ideally not be in the last two weeks of the term.

To ensure that you are able to finish in the desired term, notify the grad secretary at `msgstt@uvic.ca` with your agreed-upon defense date/time and any audio visual needs. The grad secretary will reserve a room for your defense and help you ensure the necessary documents are completed in time.

The grad secretary can enroll you in GS 599/699, a shell course for uploading your thesis/dissertation.

With a plan in place for your defense, finish the final edits of your dissertation/thesis/project. Plan for one to two weeks for your committee to agree that it represents an examinable document.

Prior to Defense

1. Make sure you apply to graduate. For Spring Convocation in June, the application for graduation form is due November 15 (if defending in the fall) or February 15 (if defending in the spring). For Fall Convocation in November, the form is due July 15 (for a summer defense). Check the Registrar's website for more information about these deadlines.

2. Submit your thesis. If you have a PDF under 128 Mb, simply upload it to the CourseSpaces page of GS 599/699. If your file is too large or you have appendices or ancillary information for the examiners, you must submit instead to the Office of the Dean of Graduate Studies using a DVD. In any case, what you submit here must be what is defended; no official changes can be made prior to defense date,

although you are encouraged to keep a record of any corrections you plan to make after the defense.

3. Conduct a review of your program requirements (this is on a 'CAPP form'). In particular, ensure all courses are listed correctly.

4. Submit an ROE (Request for Oral Examination) or, in the case of project orals, a non-thesis checklist. Note that this will require collecting signatures of your committee members and the graduate advisor, so allow some time. You should submit your ROE to the grad secretary before 3pm on the date determined as follows:

Master's project	5 working days after defense
Master's thesis	20 working days prior to defense
PhD dissertation	30 working days prior to defense

   Be careful not to count statutory holidays in these setback dates.

5. Prepare your oral presentation, which is a roughly 15 minute summary of your work occurring at the start of your defense. Also, try to anticipate possible questions that might come from the examining committee. You might find it helpful to hold a mock defense with some student friends, or even something more formal arranged through your supervisor.

   The oral examination has a chair appointed from outside the department to represent FGS. Students may find it helpful to review the chair's guidelines for conducting exams.

For PhD students, once ROE and defense documentation is submitted to FGS, neither you nor your supervisor can have contact with the external examiner. In particular, you may only inform the external examiner of any videoconferencing connection details **before** ROE submission. After that, you must let the graduate secretary act as a proxy for communicating any defense information to the external.

After Defense

Submit all of the required documents, signed by those present with an original signature, to the grad secretary. They will be submitted to GARO on your behalf.

Submit your thesis to UVicSpace. For access, you will need to contact our GARO clerk at grad18@uvic.ca.

The deadline for completing all requirements, including submitting documentation, is 3pm on the final business day of the current term. **This is a serious deadline; do not miss it.**

Postponement

Students who miss deadlines or have defended their project, thesis or dissertation within the first 15 days of a term may be eligible for the 'Completion Postponement Fee Adjustment' ($250) in lieu of a full tuition fee payment. Eligible students will have:

- paid their minimum total program fee prior to the term in which the oral examination takes place
- registered in the term in which the oral examination takes place
- submitted all documents necessary for graduation to GARO by 3pm on the last business day of that month

A full term of ancillary fees will be charged in addition to the CPFA.

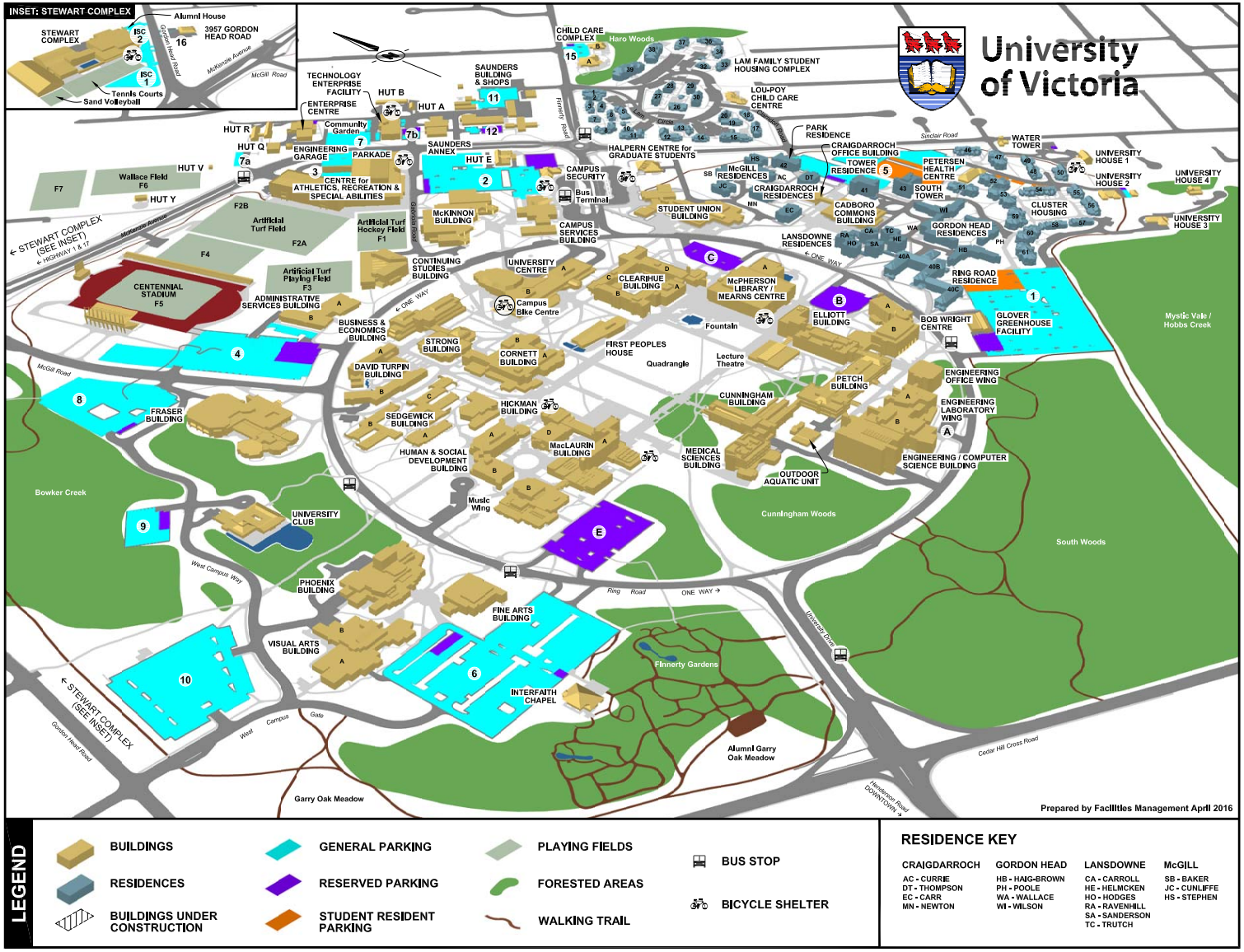
Students making use of the CPFA will not be eligible for graduation in the term in which they defend. Students completing under the provisions of the CPFA in September or January will graduate in the spring, and students completing under the CPFA in May will graduate in the fall. For further information, contact Graduate Admissions and Records.

Final Arrangements

You will need to clear out your office space and mailbox by the last week of the term in which you defended. If you require the office space past the end of term, please contact the admin officer at msadmin@uvic.ca. When you are finished with your office, don't forget to return your keys and any textbooks/materials that were borrowed.

Be sure to provide the office staff with a forwarding address.

Good luck and stay in touch!


INSET: STEWART COMPLEX
Alumni House
STEWART COMPLEX
ISC 2
3957 GORDON HEAD ROAD
16
ISC 1
Tennis Courts
Sand Volleyball
Gordon Head Road
McKenzie Avenue
McGill Road
University of Victoria
TECHNOLOGY ENTERPRISE FACILITY
HUT B
ENTERPRISE CENTRE
HUT A
SAUNDERS BUILDING & SHOPS
CHILD CARE COMPLEX
Haro Woods
LAM FAMILY STUDENT HOUSING COMPLEX
LOU-POY CHILD CARE CENTRE
Finnerty Road
Ring Road
Sinclair Road
PARK RESIDENCE
WATER TOWER
HUT R
HUT Q
Community Garden
ENGINEERING GARAGE
PARKADE
SAUNDERS ANNEX
HUT E
HALPERN CENTRE for GRADUATE STUDENTS
CRAIGDARROCH OFFICE BUILDING
TOWER RESIDENCE
PETERSEN HEALTH CENTRE
UNIVERSITY HOUSE 1
UNIVERSITY HOUSE 2
UNIVERSITY HOUSE 4
HUT V
Wallace Field F6
F7
HUT Y
CENTRE for ATHLETICS, RECREATION & SPECIAL ABILITIES
CAMPUS SECURITY
Bus Terminal
McGILL RESIDENCES
CRAIGDARROCH RESIDENCES
SOUTH TOWER
CLUSTER HOUSING
UNIVERSITY HOUSE 3
F2B
Artificial Turf Field F2A
Artificial Turf Hockey Field F1
McKINNON BUILDING
STUDENT UNION BUILDING
CADBORO COMMONS BUILDING
GORDON HEAD RESIDENCES
CAMPUS SERVICES BUILDING
LANSDOWNE RESIDENCES
← ONE WAY
← STEWART COMPLEX (SEE INSET) ← HIGHWAY 1 & 17
F4
CENTENNIAL STADIUM F5
Artificial Turf Playing Field F3
CONTINUING STUDIES BUILDING
UNIVERSITY CENTRE
CLEARIHUE BUILDING
McPHERSON LIBRARY / MEARNS CENTRE
RING ROAD RESIDENCE
ADMINISTRATIVE SERVICES BUILDING
Campus Bike Centre
ELLIOTT BUILDING
BOB WRIGHT CENTRE
GLOVER GREENHOUSE FACILITY
Mystic Vale / Hobbs Creek
BUSINESS & ECONOMICS BUILDING
Fountain
STRONG BUILDING
CORNETT BUILDING
FIRST PEOPLES HOUSE
Quadrangle
Lecture Theatre
DAVID TURPIN BUILDING
PETCH BUILDING
ENGINEERING OFFICE WING
CUNNINGHAM BUILDING
ENGINEERING LABORATORY WING
FRASER BUILDING
SEDGEWICK BUILDING
HICKMAN BUILDING
HUMAN & SOCIAL DEVELOPMENT BUILDING
MacLAURIN BUILDING
MEDICAL SCIENCES BUILDING
ENGINEERING / COMPUTER SCIENCE BUILDING
OUTDOOR AQUATIC UNIT
Bowker Creek
Music Wing
Cunningham Woods
South Woods
UNIVERSITY CLUB
PHOENIX BUILDING
FINE ARTS BUILDING
VISUAL ARTS BUILDING
Finnerty Gardens
INTERFAITH CHAPEL
Alumni Garry Oak Meadow
Garry Oak Meadow
Cedar Hill Cross Road
Prepared by Facilities Management April 2016
LEGEND
BUILDINGS
RESIDENCES
BUILDINGS UNDER CONSTRUCTION
GENERAL PARKING
RESERVED PARKING
STUDENT RESIDENT PARKING
PLAYING FIELDS
FORESTED AREAS
WALKING TRAIL
BUS STOP
BICYCLE SHELTER
RESIDENCE KEY
CRAIGDARROCH
AC - CURRIE
DT - THOMPSON
EC - CARR
MN - NEWTON
GORDON HEAD
HB - HAIG-BROWN
PH - POOLE
WA - WALLACE
WI - WILSON
LANSDOWNE
CA - CARROLL
HE - HELMCKEN
HO - HODGES
RA - RAVENHILL
SA - SANDERSON
TC - TRUTCH
McGILL
SB - BAKER
JC - CUNLIFFE
HS - STEPHEN