

201801 Math 462 A01, CRN 22038, Course Outline

- Instructor:** Dr. Gary MacGillivray
- Contact Info:** Office: DTB A442, tel: 250-721-7448; Email @uvic.ca: gmacgill
- Office Hours:** Please see the course web page (details below).
- Course Title:** Topics in Number Theory: Analytic Number Theory
- Textbook:** None. Course notes will be posted on the course web page. The following two books are available for free online, and are a fantastic resource for the topics to be covered.
- An Introduction to the Theory of Numbers*, by G. H. Hardy and E. M. Wright.
The 4th edition, from 1960, is available at www.archive.org.
- An Introduction to the Theory of Numbers*, by L. Moser.
Available at <http://www.trillia.com/moser-number.html>; so are the errata.
- Prerequisite:** Math 362, or permission of the department.
- Lectures:** MWR 2:30 – 3:20 in CLE A202
- Course Web Page:** Look at www.uvic.ca/science/math-statistics then Undergraduate then Courses, and then 462 to find:
- this outline
 - office hours
 - assignments and due dates
- Syllabus:** Arithmetical functions and their order of magnitude; the series of primes: Bertrand's Postulate, Chebychev's Theorem, the elementary proof of the Prime Number Theorem; the geometry of numbers; rational, irrational, algebraic and transcendental numbers; the approximation of irrationals by rationals; and possibly Dirichlet's Theorem on primes in arithmetic progressions.
- Grading Scheme:**
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| • Assignments (not of equal value) | 60% |
| • Project | 10% |
| • Final Exam (scheduled by Records) | 30% |
- There will be six take home assignments, which will be due on roughly two week intervals.
- Special arrangements will not be made for students who have plans for travel or employment during the final examination period.**
- Grading Notes:** For the purposes of GPA calculations, the standard UVic conversion from course percentage to letter grade is used. Details are in the Calendar, and also on the Course Policy sheet referenced below.

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Course Policies:

Students who do not achieve 40% on the final exam will not pass the course.

Please see the Course Policies common to all Math classes at

<http://www.uvic.ca/science/math-statistics/current-students/undergraduate/course-policies/index.php>.

Some of these are repeated in what follows. In particular, note that the only calculator that may be used on exams is the Sharp EL 510R or the Sharp EL-510RN.

Discussing homework exercises with classmates, including homework to be submitted for marks, is a useful and mathematically healthy practice. The work you submit must be written independently, be in your own words, and reflect your understanding.

Please take note of the UVic policy on attendance: see

<http://web.uvic.ca/calendar2018-01/undergrad/info/regulations/attendance.html#>.

In particular, students are expected to attend all classes in which they are enrolled.

Students are expected to submit their homework, and write tests, as scheduled. Assignments are due in class *before the lecture begins*. Late assignments may be submitted before the start of the next class, with a 20% deduction from the grade earned.

Academic concessions for missed course work are available to students who, through no fault of their own, are prevented by circumstances from completing an assignment, writing a midterm, or writing the final exam. In accordance with UVic policy, these are considered only in cases of illness, accident or family affliction: see

<http://web.uvic.ca/calendar2018-01/undergrad/info/regulations/concessions.html#>

Supporting documentation from a doctor or counsellor or varsity coach is required for any concession.

If an academic concession is granted for a term work, then the student's rank on the final exam will be used to estimate a grade for each piece of work excused. As emphasized in the next point, academic concessions for term work are limited to work of value totalling at most 25% of the course grade. Retroactive withdrawals are available to students who are able to provide their Associate Dean with documentation showing that accident, illness, or affliction has prevented them from making a serious attempt at the course.

Academic concessions for missed course work will not be granted to students who have been absent from class for a substantial portion of the term, or who will not have completed course work worth at least 55% of the course grade by the end of the last day of classes. Please note that "Deferred" status applies only to final exams.

If you have a question or concern about an assigned mark, please bring it to my attention within seven calendar days of the date when work is returned to the class. After this time has elapsed, your mark will not change except in case of an arithmetic error. If you are sick, an email or a phone call will suffice as notice, provided you see me immediately on your return to classes.

Take-home assignments and midterms will be returned in class, or can be claimed during office hours. Any term work that is uncollected by the end of the final exam period will be put into confidential shredding.

Note. Towards the end of term you will have the opportunity to complete an anonymous Course Experience Survey regarding your learning experience in this class. I take the comments seriously and thank you in advance for them.