

Outlines

Instructors and Teaching assistants:

- See: [Sections, Instructors, TAs](https://q.utoronto.ca/courses/398751/pages/sections-instructors-tas) (<https://q.utoronto.ca/courses/398751/pages/sections-instructors-tas>)
- [Visual timetable](https://q.utoronto.ca/courses/398751/pages/visual-timetable) (<https://q.utoronto.ca/courses/398751/pages/visual-timetable>)

Description

▼ [2025-2026 Timetable Description](#)

(http://www.artsandscience.utoronto.ca/ofr/calendar/crs_mat.htm#MAT334H1)

Theory of functions of one complex variable, analytic and meromorphic functions. Cauchy's theorem, residue calculus, conformal mappings, introduction to analytic continuation and harmonic functions.

Prerequisite: MAT223H1/ MATA23H3/ MAT223H5/ MAT240H1/ MAT240H5, MAT235Y1/ MAT235Y5/(MAT232H5, MAT236H5)/(MATB41H3, MATB42H3)/ MAT237Y1/(MATB41H3, MATB42H3, MATB43H3)/ MAT237Y5/ MAT257Y1

Exclusion: MAT354H1

- Breadth Requirements: The Physical and Mathematical Universes (5)

Textbook

- [Stephen D. Fisher. *Complex Variables* 2nd Edition \(Dover Books on Mathematics\). ISBN-13: 978-0486406794, ISBN-10: 0486406792](#) [↗](https://www.amazon.com/Complex-Variables-Second-Dover-Mathematics/dp/0486406792) (<https://www.amazon.com/Complex-Variables-Second-Dover-Mathematics/dp/0486406792>)
- [Victor Ivrii, *Complex Variables* \(Open Math. Notes\), free](#) [↗](https://www.ams.org/open-math-notes/omn-view-listing?listingId=111300) (<https://www.ams.org/open-math-notes/omn-view-listing?listingId=111300>)
- [Victor Ivrii, *Complex Variables*](#) [↗](https://www.math.toronto.edu/ivrii/CV-LectureNotes.pdf) (<https://www.math.toronto.edu/ivrii/CV-LectureNotes.pdf>) (the same but updated as needed)

Coverage


▼ We will cover (in full or partially) chapters 1, 2, and 3 of Fisher's textbook:

- The Complex Plane
- Basic Properties of Analytic Functions
- Analytic Functions as Mappings

Tests:


▼ All tests together are 45 points worth:

1. **Term Test 1:** October 23, Thursday, 17:00--19:00 , 22.5 pts.
2. **Term Test 2:** November 20, Thursday, 17:00--19:00 22.5 pts.

- Each test will be in person as [Crowdmark Administrated Assessment](http://www.math.toronto.edu/ivrii/Teaching/CM-students-AdA.html)  (<http://www.math.toronto.edu/ivrii/Teaching/CM-students-AdA.html>). See details for each Test in its description. All Tests are listed in Modules and in Calendar.
- For each Test (Term Test 1 or Term Test 2) in addition to the **Main Sitting** there will be an **Alternative Sitting** in the same day and a **Deferred Sitting**, one week after the Test. You are eligible for a Deferred sitting, if you submit a Doctor's Note or ACORN self-declaration covering the regular day of the Test. After this you must either take a Deferred sitting or submit a Doctor's Note or ACORN self-declaration covering the corresponding day.
- If you miss some Tests due to medical or other legitimate reasons (that is, you need to submit justifications for both main and deferred sittings), their weight will be shifted to the remaining Tests (including Final Exam).

Quizzes

▼ There will be 7 Quizzes

- There will be 7 Quizzes drawn from the Home Assignments (minor modifications are possible), each worth 3 points, worth together 15 points, with 2 worst dropped. They will be approximately 20 min long. Each Quiz will be in person as [Crowdmark Administrated Assessment](http://www.math.toronto.edu/ivrii/Teaching/CM-students-AdA.html)  (<http://www.math.toronto.edu/ivrii/Teaching/CM-students-AdA.html>) during tutorials (Tue--Fri).
- All Quizzes are listed in Modules and in Calendar.
- We plan no deferred sittings. If you miss more than three Quizzes due to medical or other legitimate reasons, their weight (minus 3 of them) will be shifted to the remaining Assignments.
- Home assignments are neither submitted nor graded but Quizzes will be drawn from Home assignments which are due (with possible minor modifications).

Final Examination

- is 40 pts worth. It is scheduled and administrated by Dean's Office. Availability of the Deferred Final Assessment (Examination) will be determined by FAS policy.

Marking scheme

▼ Your **Final Mark** will be computed as follows:

- $FM = \min [Q + T_1 + T_2 + FEM, 100]$,
- $Q = Q_1 + Q_2 + Q_3 + Q_4 + Q_5 + Q_6 + Q_7$ with 2 worst Quizzes dropped,

where **FM** and **FEM** are your Final Mark, and the Final Exam Mark respectively,

- T_n are your Test marks (each of these tests is worth 22.5 points), $n=1,2$
- Q_n are your Quiz marks (each of these tests is worth 3 points), $n=1,...,7$
- **Missing work (clarification):**
 - a. If you missed both sitting of a Test and submitted justifications for both, the weight of this Test is shifted to the remaining Tests and the Final exam (so, if you missed Test 1 or 2, the sum is multiplied by 85/62.5, if you missed Test 1 and 2, the Final Exam gets factor 85/40).
 - b. If you missed more than 2 Quizzes and submitted corresponding justifications the weight is shifted to the sum of Tests, Final Exam, and Quizzes. F.e. if you missed three Quizzes, the

remaining sum gets factor 100/97, if you missed four Quizzes the factor will be 100/94, and so on.

- c. If you missed both some Tests and some Quizzes, Tests are scaled first, so weights of Quizzes are shifted to all other assignments (Tests, Final Exam and Quizzes) but weights of Tests are shifted **only** to Tests (and Final Exam).

Miscellaneous

▼ Appealing grades

- After grades for Tests or Quizzes are posted, appeals should be sent by email to Class Coordinator no later than announced deadline (usually one week after grades posted).
- Final Exam and Final Grades appeal are regulated by institutional policies and you should follow them.

▼ Asking questions

- Read class materials before asking questions.
- Questions of public interest must be asked in **Discussions**.
- Private questions must be asked in email to Class Coordinator. Try to provide all necessary details but to be as concise as possible.

▼ Reporting an Absence

Students who are absent from academic participation for any reason and who require consideration for missed academic work should report their absence may use

- Absence declaration via ACORN (see below for important information on eligibility)
- [U of T Verification of Illness or Injury Form \(VOI\)](http://www.illnessverification.utoronto.ca/index.php)
(<http://www.illnessverification.utoronto.ca/index.php>)
- College Registrar's letter
- Letter of Academic Accommodation from Accessibility Services

See details [here \(https://q.utoronto.ca/courses/398751/discussion_topics/3179157\)](https://q.utoronto.ca/courses/398751/discussion_topics/3179157).

▼ Auditing the course

- If you are planning to take Deferred Exam, you need to be included in the Quercus Roster as an Unregistered Student. Please contact Class Coordinator even if someone in administration included you. Inclusion as an Observer is insufficient as a system does not consider Observers to be students, grades are not assigned to them and they are not synchronized with Crowdmark.

Institutional Policies

• ▼ Academic Integrity

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters

(<https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019> (<https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019>)). If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, please reach out

to your Course Instructor. Note that you are expected to seek out additional information on academic integrity from me or from other institutional resources (for example, the University of Toronto website on Academic Integrity <http://academicintegrity.utoronto.ca/> (<http://academicintegrity.utoronto.ca/>)).

- **▼ Copyright**

This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session. Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation and are protected by copyright. Do not download, copy, or share any course or student materials or videos without the explicit permission of the instructor. For questions about the recording and use of videos in which you appear, please contact your instructor.

- **▼ Accessibility**

The University provides academic accommodations for students with disabilities in accordance with the terms of the Ontario Human Rights Code. This occurs through a collaborative process that acknowledges a collective obligation to develop an accessible learning environment that both meets the needs of students and preserves the essential academic requirements of the University's courses and programs. Students with diverse learning styles and needs are welcome in this course. If you have a disability that may require accommodations, please feel free to approach your Course Instructor and/or the Accessibility Services office as soon as possible. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course. Link to Accessibility Services website:

<https://studentlife.utoronto.ca/departments/accessibility-services/>
(<https://studentlife.utoronto.ca/departments/accessibility-services/>)

- **▼ Equity, Diversity and Inclusion**

The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. U of T does not condone discrimination or harassment against any persons or communities.

- **▼ Important Academic Dates & Deadlines**

The academic dates include enrolment dates, drop deadlines, exam periods, petition deadlines and more. <https://www.artsci.utoronto.ca/current/dates-deadlines/academic-dates>
(<https://www.artsci.utoronto.ca/current/dates-deadlines/academic-dates>)

- **▼ Other Academic and Personal Supports**

Writing Centre

<https://writing.utoronto.ca/writing-centres/arts-and-science/>
(<https://writing.utoronto.ca/writing-centres/arts-and-science/>)

- U of T Libraries <https://onesearch.library.utoronto.ca/> (<https://onesearch.library.utoronto.ca/>)
- Feeling Distressed? <https://studentlife.utoronto.ca/task/support-when-you-feel-distressed/> (<https://studentlife.utoronto.ca/task/support-when-you-feel-distressed/>)

- Academic Success Centre <https://studentlife.utoronto.ca/departments/academic-success/> (<https://studentlife.utoronto.ca/departments/academic-success/>)
- College/Faculty Registrars <https://future.utoronto.ca/current-students/registrars/> (<https://future.utoronto.ca/current-students/registrars/>)

Remarks

- There could be situations or circumstances which are not covered by these Outlines or University & Faculty policies. Please talk to me (email or just talk in Zoom). Please do it as soon as possible.

Aftermath

▼ Recommendation letters

- I am writing recommendation letters to Graduate Studies for students who took with me either junior or senior classes (MAT334, and/or APM346, and/or APM441) and got at least 85 in one of them.
- Sending request to me please indicate all classes you took with me and when. I am not writing letters based only on MAT244 (but you must indicate this class if you took it with me).

These Outlines correspond to FAS policies as August 19, 2024. They will be updated if policies change.

All right-pointed triangles (►) are expandable (click on them!) and down-pointed triangles (▼) are collapsable



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