

MATH 234: COMPLEX ANALYSIS

In Workflow

1. MATH Committee Chair (vincent.pigno@csus.edu)
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Approval Path

1. Fri, 11 Oct 2024 18:20:11 GMT
Vincent Pigno (vincent.pigno): Approved for MATH Committee Chair
2. Mon, 14 Oct 2024 16:35:01 GMT
Kimberly Elce (kelce): Approved for MATH Chair
3. Thu, 24 Oct 2024 16:50:15 GMT
Mikkel Jensen (mikkel.jensen): Approved for NSM College Committee Chair
4. Thu, 24 Oct 2024 22:34:34 GMT
Chris Taylor (ctaylor): Approved for NSM Dean

Date Submitted: Sat, 05 Oct 2024 03:07:21 GMT

Viewing: MATH 234 : Complex Analysis

Last edit: Sat, 05 Oct 2024 03:07:20 GMT

Changes proposed by: Matthew Krauel (219183121)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Matthew Krauel	krauel@csus.edu	916-278-6221

Catalog Title:

Complex Analysis

Class Schedule Title:

Complex Analysis

Academic Group: (College)

NSM - Natural Sciences & Mathematics

Academic Organization: (Department)

Mathematics & Statistics

Will this course be offered through the College of Continuing Education (CCE)?

No

Catalog Year Effective:

Fall 2025 (2025/2026 Catalog)

Subject Area: (prefix)

MATH - Mathematics

Catalog Number: (course number)

234

Course ID: (For administrative use only.)

147716

Units:

3

Is the ONLY purpose of this change to update the term typically offered or the enforcement of existing requisites at registration?

No

In what term(s) will this course typically be offered?

Fall, Spring

Does this course require a room for its final exam?

Yes, final exam requires a room

This course complies with the credit hour policy:

Yes

Justification for course proposal:

The program is deactivating MATH 234B from its catalog and will begin phasing out MATH 234A. It is replacing these courses with MATH 234. A Form B for the program is also being submitted including MATH 234 as an elective. Students with catalog rights that allowed the use of MATH 234A will be approved to take MATH 234 in its place.

Course Description: (Not to exceed 90 words and language should conform to catalog copy.)

Complex numbers, including roots and powers. Complex functions, including branch cuts, and multivariable, exponential, logarithmic, analytic, and harmonic functions. Complex differentiation and integration, including line integrals and Cauchy's Theorem. Series, including power series, analytic functions, meromorphic functions, and calculus of residues.

Are one or more field trips required with this course?

No

Fee Course?

No

Is this course designated as Service Learning?

No

Is this course designated as Curricular Community Engaged Learning?

No

Does this course require safety training?

No

Does this course require personal protective equipment (PPE)?

No

Does this course have prerequisites?

Yes

Prerequisite:

Math 130B and Math 32, or instructor permission.

Prerequisites Enforced at Registration?

No

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

No Approval Required

Course Component(s) and Classification(s):

Seminar

Seminar Classification

CS#05 - Seminar (K-factor=1 WTU per unit)

Seminar Units

3

Is this a paired course?

No

Is this course crosslisted?

No

Can this course be repeated for credit?

No

Can the course be taken for credit more than once during the same term?

No

Description of the Expected Learning Outcomes and Assessment Strategies:

List the Expected Learning Outcomes and their accompanying Assessment Strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers). Click the plus sign to add a new row.

	Expected Learning Outcome	Assessment Strategies
1	Students will be able to articulate basic concepts and ideas in complex analysis; in particular in comparison to the real analysis case and issues surrounding multivalued functions, branch cuts, power series, and Laurent series.	Exams, reading and problem-solving assignments.
2	Students will be able to calculate integrals, including line and real integrals using complex analysis.	Exams, reading and problem-solving assignments.
3	Students will be able to analyze and create examples and counterexamples of functions that exhibit various properties such as being harmonic, holomorphic, meromorphic, and with various poles and zeros.	Exams, reading and problem-solving assignments.
4	Students will be able to demonstrate fluency in complex analysis definitions and theorems by using them to solve problems and write technical proofs in the subject.	Exams, reading and problem-solving assignments.
5	Students will be able to communicate ideas in complex analysis in a sophisticated manner through discussion and/or presentation.	Exams, reading and problem-solving assignments.

Attach a list of the required/recommended course readings and activities:

MATH 234 Sample Syllabus.docx

Is this course required in a degree program (major, minor, graduate degree, certificate?)

No

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

Yes

Indicate which department(s) will be affected by the proposed course:

Department(s)
Mathematics

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals

Graduate (Masters) Learning Goals:

Disciplinary knowledge
Communication
Critical thinking/analysis
Information literacy
Professionalism
Intercultural/Global perspectives

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

Is this a Graduate Writing Intensive (GWI) course?

No

Please attach any additional files not requested above:

A&L consultation email.pdf

Key: 10729