MATH 210A: ALGEBRAIC STRUCTURES

In Workflow

1. MATH Committee Chair (taylorlm@csus.edu)
2. MATH Chair (zeigler@csus.edu)
3. NSM College Committee Chair (tsk@csus.edu)
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12. Registrar's Office (wlindsey@csus.edu)
13. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. Wed, 17 Mar 2021 21:15:32 GMT
   Lisa Taylor (taylorlm): Approved for MATH Committee Chair
2. Wed, 17 Mar 2021 21:19:04 GMT
   David Zeigler (zeigler): Approved for MATH Chair
3. Wed, 17 Mar 2021 23:23:29 GMT
   Thomas Krabacher (tsk): Rollback to MATH Chair for NSM College Committee Chair
4. Fri, 19 Mar 2021 19:45:57 GMT
   David Zeigler (zeigler): Rollback to Initiator
5. Sat, 27 Mar 2021 00:00:28 GMT
   Lisa Taylor (taylorlm): Approved for MATH Committee Chair
6. Sat, 27 Mar 2021 05:23:39 GMT
   David Zeigler (zeigler): Approved for MATH Chair
7. Tue, 06 Apr 2021 22:36:44 GMT
   Thomas Krabacher (tsk): Approved for NSM College Committee Chair
8. Fri, 09 Apr 2021 18:45:34 GMT
   Shannon Datwyler (datwyler): Approved for NSM Dean

Date Submitted: Mon, 22 Mar 2021 04:22:06 GMT

Viewing: MATH 210A : Algebraic Structures
Last edit: Mon, 22 Mar 2021 04:22:04 GMT

Changes proposed by: Tracy Hamilton (101043770)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
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Catalog Title:

Algebraic Structures

Class Schedule Title:

Algebraic Structures

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 2021 (2021/2022 Catalog)

Subject Area: (prefix)
MATH - Mathematics

Catalog Number: (course number)
210A

Course ID: (For administrative use only.)
147656

Units:
3

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

Does this course require a room for its final exam?
Yes, final exam requires a room

Does this course replace an existing experimental course?
No

This course complies with the credit hour policy:
Yes

Justification for course proposal:
We are updating this course to demonstrate how it complies with the requirements of a GWI course.

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)
Graduate level course in algebraic structures. Topics include group theory including permutation groups, subgroups, homomorphisms, quotient groups, group actions, Sylow theorems and the theory of finite Abelian groups, as well as an introduction to ring theory including ideals, quotient rings, and integral domains.

Are one or more field trips required with this course?
No

Fee Course?
No

Is this course designated as Service 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 110B.

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: Describe outcomes using the following format: "Students will be able to: 1), 2), etc."

Students will be able to
1) Show an appreciation of the theory and applications of abstract algebra in the field of mathematics;
2) Demonstrate fluency in the language of mathematics, within the framework of the study of abstract algebra;
3) Reason with mathematical rigor, and do this by designing proofs of mathematical results;
4) Demonstrate a mathematical sophistication by synthesizing their knowledge of abstract algebra to design proofs of mathematical results that they have not seen before;

Additionally, as a GWI course, by the end of the semester, students will
5) Understand the major research and/or professional conventions, practices, and methods of inquiry in mathematics;
6) Understand the major formats, genres, and styles of writing used in mathematics;
7) Practice reading and writing within mathematics;
8) Practice reading and writing as a learning process that involves peer and instructor feedback, revision, critical reflection, and self-editing.

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

Math 210A Course Readings and Activities.pdf

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above.

1. In-class discussions
2. Reading Assignments
3. Writing assignments
3a. At least two assignments will include a formal submission of a draft of the assignment for instructor feedback prior to the submission of the final draft
3b. At least four assignments will go through a formal process of peer review prior to submission of the final draft
4. Exams (midterm and final)
SLO1: 1, 2
SLO2: 1, 3, 4
SLO3: 3, 4
SLO4: 4
GWI outcomes:
SLO5: 1, 2, 3
SLO6: 1, 2, 3
SLO7: 2, 3, 4
SLO8: 3 (esp. 3a, 3b)

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

Yes

Has a corresponding Program Change been submitted to Workflow?
No

Identify the program(s) in which this course is required:

Programs:
MA in Mathematics

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?
No

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:
Critical thinking/analysis
Communication
Information literacy
Disciplinary knowledge
Professionalism

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?
Yes

Please attach the GWI Course Approval Request form:
gwi_form_210A.docx

Please attach any additional files not requested above:
Math 210A (Algebraic Structures) Sample Syllabus.docx
Writing Proofs.pdf
Additional Info Math 210A.pdf
Math 210A Course Readings and Activities.pdf

Reviewer Comments:

Thomas Krabacher (tsk) (Wed, 17 Mar 2021 23:23:29 GMT): Rollback: Need to: (1) strengthen action language in Learning Outcomes and (2) explicitly link assessment strategy with each Learning Outcome on the course proposal form (Form A). See previous email for details.

David Zeigler (zeigler) (Fri, 19 Mar 2021 19:45:57 GMT): Rollback: Rollback to make edits requested by NSM CRC.

Key: 3205