Approval Chart for Curriculum Changes

A = Approve I= Information Item[1] R= Advise & Respond[2]

Course Number MATH 101 or Degree Plan(s) _____

State the requested change and reason. A memo may be attached if more space is necessary.

MATH 101 is a course designed for first-year math majors. Historically, the department has had difficulty cultivating community among students because first-year students start in a variety of classes and do not have a shared experience. First year students may begin in MATH 109, 124, 185, 186, or 286. In many years the distribution is somewhat uniform, so it's possible a math major may only meet 1-2 other members of their class before their sophomore year. Additionally, the department currently lacks a way to address career possibilities in the field before the junior year
(which is too late). Not understanding what jobs are available to a mathematics major is a consistent reason for students changing their major. This course would address vocational elements of the discipline directly. Finally, this course meets certain experiential learning goals for the department and is constructed in a way to allow students hands on experience with mathematical professionals in our local community.

Circle the number that corresponds to the requested change. Degree plan changes are on the second page.

					COUNCIL[3]					
	Change to a Course	**Dept./School**	**College Academic**	**Deans**	**TEC**	**UGEC**	**UUAC**	**GRAD**	**Provost**	**President**
1.	Title (description unchanged)	A	A	A		I			I	I
2.	Description (not affecting content)	A	A	A		I			I	I
3.	Course term(s)	A	I	A		I			I	I
4.	Content (substantive change)	A	A	A		I			A	I
5.	Number of hours (lecture, lab, contact)	A	A	A		A			A	I
6.	Course number within the hundred	A	A	I		I			I	I
7.	Course number beyond the hundred	A	A	A		A			A	I
8.	Prerequisites	A	A	A		I			I	I
9.	Course fee(s)	A	--	A		--			A	I
10.	From U to G *or* G to U	A	A	A		A			A	I
11.	Cross list with another department: U or G level	A	A	A		A			A	I
12.	Department of record	A	A	A		A			A	I
13.	Open or close a course	A	A	A		A			A	I
14.	New course — See website for application and process. This change includes combining or splitting a course(s).	A	A	A		A			A	I

Note: When an academic unit does not have a council, the UGEC and/or UUAC will serve as its academic council, depending on the nature of the issue.

Approval Chart for Curriculum Changes

A = Approve I= Information Item[1] R= Advise & Respond[2]

	Change to a Degree Plan	Dept./School	College Academic	Deans	COUNCIL[3] TEC	UGEC	UUAC	GRAD	Provost	Faculty	President	Board of Trustees
1.	University Requirements — Change in approved course content[6]	A	A	A	A				A	--	A	--
2.	University Requirements — Add or drop a required course from the University Requirements chart[6]	A	A	A	A				A	A	A	--
3.	University Requirements — Add or drop a course from a menu within the University Requirements[6]	A	--	--	A				A	--	A	--
4.	University Requirements — Change hours within a menu on the University Requirements chart[6]	A	A	A	A				A	A	A	--
5.	Major — Revision of major [4,5]	A	A	A	A				A	--	A	--
6.	Major — Adopt or change admission requirements	A	A	A	A				A	--	A	--
7.	Major — Add [4,5]	A	A	A	A				A	A	A	I
8.	Major – Discontinue (proposed by the department or college)	A	A	A	A				A	A	A	I
9.	Major – Discontinue (proposed by the Provost)	See below.										
10.	GPA — Revise major or cumulative requirement	A	A	A	A				A	A	A	--
11.	Minor — Revise course selection	A	A	A	I				I	--	I	--
12.	Minor — Add	A	A	A	A				A	--	A	--
13.	Minor – Discontinue (proposed by the department or college)	A	A	A	A				A	--	A	--
14.	Minor – Discontinue (proposed by the Provost)	See below.										
15.	Degree — Add	A	A	A	A				A	A	A	I
16.	Degree – Discontinue (proposed by the department or college)	A	A	A	A				A	A	A	I
17.	Degree – Discontinue (proposed by the Provost)	See below.										
18.	Any change to a graduate degree program	A	A	A	A				A	--	A	--

	Provost-Proposed Change	Provost	Department	Dean	COUNCIL[3] TEC	UUAC	Graduate	Faculty	President	Board of Trustees
1.	Major/Graduate Program – Discontinue (proposed by the Provost)	A	R	R	A			A	A	I
2.	Minor – Discontinue (proposed by the Provost)	A	R	R	A			--	A	--
3.	Degree – Discontinue (proposed by the Provost)	A	R	R	A			A	A	I

Approval Chart for Curriculum Changes

A = Approve I= Information Item[1] R= Advise & Respond[2]

					COUNCIL[3]					
	Change to the Catalog Information	**Dept./School**	**College Academic**	**Deans**	**UGEC**	**UUAC**	**GRAD**	**Provost**	**Faculty**	**President**
1.	General requirements for graduation including course requirements that are common to all majors for all degrees[7]	--	--	--	A			A	A	A
2.	Admission requirements	--	--	--	A			A	A	A
3.	Policies governing academic probation and suspension	--	--	--	A			A	A	A
4.	Requirements for graduating with honors	--	--	--	A			A	A	A

[1] Councils may request additional information about "Information" items. These items are approved as "Consent Agenda."

[2] The Dean and Department should respond to the Provost's recommendation to close a program in writing. Advise & Respond (R) requires that the voting body should receive the written responses at least one week prior to the vote.

[3] All courses that meet University Requirements for general education must go through UGEC. Courses or degrees offered only to students seeking teacher certification must go through the Teacher Education Council. All undergraduate changes must go before the UUAC. All graduate degree plan changes must go through the Graduate Council.

[4] A minimum of 30 hours is required for a major. A maximum is specified for each degree (e.g., BA, BS). The university minimum for elective hours is 6, unless the requirements of external accrediting bodies make it impossible.

[5] Program or course changes that apply to any major that includes Teacher Certification will be reviewed by the college, the Teacher Education Council (TEC), and then the UUAC.

[6] Courses that satisfy ACU's University Requirements (General Education) will normally have lower-level numbering, be free of prerequisites and co-requisites, appeal to more than one or two majors, and "not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession" (SACS 2.7.3). Departments may request exceptions to the first three criteria.

[7] The UUAC approved the clarification that "general requirements for graduation" means the enumerated items in the "General Requirements for Bachelor's Degrees" section of the catalog.

Revised 8-26-19

Curriculum/Catalog Changes Signature Page

Department/School Chair(s)

David Hudgins	10/08/2021
Signature	*Approval date*
Signature	*Approval date*

College Academic Council(s)

	Nov 10 2021
Signature	*Approval date*
Signature	*Approval date*

Dean(s)

	Nov 10 2021
Signature	*Approval date*
Signature	*Approval date*

Teacher Education Council

Chair's signature	*Approval date*

General Education Council

Chair's signature	*Approval date*

Undergraduate Academic Council

Chair's signature	*Approval date*

Graduate Council

Chair's signature	*Approval date*

Provost

Signature	*Approval date*

Faculty

Chair of faculty senate	*Approval date*

President

Signature	*Approval date*

Application for a New Course v10.7

Discard instructional pages A-C before submitting application

Course ID (*Subject and Number*)	MATH 101

I. Systems and Catalog Information Complete each item.

1	Course Developer	Dr. John Ehrke, Dr. Phyllis Bolin, Dr. Traci Yandell
2	Course Instructor	Dr. John Ehrke
3	Course Title	Introduction to the Math Major
4	Course Abbreviation for Banner if title is more than 30 characters	
5	College	Arts and Science
6	Department or School	Mathematics
7	Number of Credit Hours	2
8a.	Number of contact hours – lecture	2
8b.	Number of contact hours – lab/activity	0
9	Is the course for a fixed or variable number of credit hours?	Fixed
10	Explanation for variable credit	n/a
11	Is the course repeatable for additional credit?	No
12	Maximum total number of credit hours a student can earn for this course	2
13	What type of course is this? (Select one option. Please see Schedule Type definitions on Page C.)	_x_Traditional lecture _Traditional lab _Traditional lecture/lab _Experiential Learning _Seminar _Studio _Thesis _Dissertation

14	Number of faculty workload hours	2
15	Grade Mode	x Standard _Credit/No Credit (undergrad only)
16	Maximum Enrollment	20
17	**Catalog Description** (50 words or less)	Introduction to the field of mathematics including careers in mathematics. Emphasis on the role of mathematics in society. Introduces students to professional tools for communicating mathematics through technology. Written and oral assessments emphasize creativity, reflection and analysis over calculation.
18	List any prerequisites (course/s, test scores, class standing, major, etc.)	For MATH and MATT majors only.
19	List any corequisites (these *must* be taken at the same time; note that a single requirement cannot be both a prerequisite *and* a corequisite)	none
20	If the course is cross-listed, specify the Course ID(s)	n/a
21	Does this course require any additional student course fees?	x No _Yes If yes, attach a completed "Request to Add or Change Course Fees" form. Described in section IV-8.
22a	Will the course be offered in **fall** terms?	_No x Yes If yes: all, even, or odd years? - all
22b	Will the course be offered in **spring** terms?	x No _Yes If yes: all, even, or odd years? – n/a
22c	Will the course be offered in **summer** terms?	x No _Yes If yes: all, even, or odd years?
23	First semester this course will be offered under a new Course ID. *May not be earlier than the coming fall semester.*	Fall 2022
24	Is this course required for a degree/s?	_No

		_x_ Yes If yes, attach a revised degree plan(s) reflecting the placement of the new course.
25	Should the addition of this course be retroactively applied to the degree plan it supports? *This is rare, and rationale should explain compelling extenuating circumstances.*	_x_ No _ Yes If yes, provide rationale:
26	Has this course been offered as a Special Topics course? *New courses are not required to be taught as Special Topics courses prior to approval.*	_x_ No _ Yes If yes, provide course ID, term, and enrollment:
27	List any courses in which the content overlaps the proposed course. (Course ID and Name) *Attach a statement from the instructor/dept chair of the existing course justifying the new offering in Section IV-D.*	none

II. Curriculum

A. Explain the effect on degree plans. If the addition of the course alters degree requirements, submit a separate Approval Chart for Curriculum Change to update the degree plan.

This course will add two hours to the degree plan for all mathematics degrees. Two hours will be taken from elective hours in all degrees to compensate. This will leave all math degree plans with at least 8 hours of electives. See attached degree plan changes.

B. Justify the addition of this course to the current curriculum, explaining the gap it meets.

To help meet department goals in professional, experiential, and recruiting areas this course fulfills several purposes:

1. *To attract and keep students enrolled as a math major. Often, mathematics majors come to ACU liking math with no clear career goals. We do not currently offer a course that focuses on career path options as a mathematics major and this is a clear hole in our curriculum.*
2. *To provide first-year students in the program a meaningful hands-on experience. Outside of student teaching there are few opportunities in our curriculum for hands-on or experiential learning. There are elements of this course directly related to the experiential learning goals for the department.*

3. *To build community in the department. Since the closure of U100, Mathematics has suffered from not having a single common experience for first-year students. There is no "starting math course" and this fractures our community from the start. We hope that this course will give first-year students a common experience that will prove valuable in building community and retention.*

III. Course Design

A. Audience and Course Goal

1) Describe the intended audience, including prerequisite skills.

a) This course is intended for first-year students who are MATH or MATT majors. Students who transfer into the department with fewer than 60 hours will be required to take the course, but once students transfer in 60 or more hours we will create a substitution waiver for the course. No specific prerequisite skills are required for this course.

2) State the overarching course goal(s) in performance terms.

a) Provide students, new to the major and the department, the opportunity to build community with their fellow mathematics majors.

b) Develop mathematical writing, reading, reasoning, critical thinking and communication skills to help students transition from high school to college.

c) Introduce students to possible career paths in mathematics and explain how they can work toward their vocational aspirations through studying mathematics.

d) Integrate community-based learning with readings and discussions about the role of mathematics in our society, addressing the "social context of mathematics".

e) Introduce students to technology-based tools of the profession.

f) Expose students to departmental faculty, alumni, areas of research, and job, internship and scholarship opportunities.

B. Student Learning Outcomes and Measurements

	Student Learning Outcome	**Measurement**
1	Students will develop proficiency in writing professionally typeset solutions to open-ended problems in mathematics.	Students will develop this competency through in-class LaTeX exercises and assigned problem solving write-ups.
2	Students will identify a wide variety of professions in mathematics and be able to compare and contrast the paths needed to aspire to those professions.	Students will develop this competency through in-class discussions, reading assignment discussions, and completion of a graduation plan.
3	Students will reflect on their experiences during the first semester through the lens of developing a mathematical habit of mind.	Students will develop this competency through in-class discussions, a reflective reading assignment, and completion of a graduation plan.

4	Students will integrate community-based learning and mathematics to develop a framework for solving problems in society.	Students will develop this competency through completion of the mathematics in community project and associated reading discussions.

3. Text and Resources

Give the full publication information of the textbook/s and other required resources and outside readings. For **combined undergraduate/graduate** courses, make two lists:

A. full publication information; label **Undergraduate**.

In lieu of a single course textbook, students will be exposed to a variety of articles and excerpts from the following sources.

1. *The Signal and the Noise: Why So Many Predictions Fail - But Some Don't* by Nate Silver. New York: Penguin Press, 2012.
2. *Sustainability Education: The What and How for Mathematics*, by J.G. Hamilton, T.J. Pfaff. PRIMUS 24(1), (2014).
3. *Mathematics and Democracy: The Case for Quantitative Literacy*, by Lynn Arthur Steen, National Council on Education and the Disciplines, Princeton, NJ, 2001.
4. *Rebooting the Mathematics Behind Gerrymandering*, by Moon Duchin and Peter Levine.
5. *The Mathematicians Brief in Rucho vs. Common Cause*, mggg.org/amicus.
6. *Of Course 2+2=4 is Cultural. That Doesn't Mean the Sum Could be Anything Else*. by Keith Devlin.

B. full publication information; label **Graduate**.

IV. Supporting Documentation

Required of all applications	
1	**Approval Chart for Curriculum Changes**
2	**Syllabus — Attach** the syllabus for the course based upon the anticipated first-semester offering.
3	**Instructional Design** — The syllabus must be reviewed by the Adams Center. **Attach** a copy of the Adams Center letter.
4	**Library** — Submit new course application and syllabus to the Library dean's office. **Attach** the Library's memo.

Attach if applicable	
5	**Content Overlap** — Include one document for each course you listed in Section I-27. **Attach** statement from instructor/dept chair of existing course justifying the new offering.
6	**Departmental Resources** — List the resources that support the course and are available only through the department, if applicable. **Attach** the list of the holdings and the location/s.
7	**Resources** — List resources (other than library or departmental resources) that are needed to support this course (computers, lab equipment, other technology, etc.). **Attach** a complete list of all items and indicate possible sources or estimated cost of each. List the sources of any needed funds.
8	**Expenses** — List additional expenses needed to implement this course (full-time or part-time faculty, graduate or lab assistants, student employees, travel, special student costs, room renovation, storage facility, etc.). **Attach** a complete list of all items, the estimated cost of each and the source of the funds.
9	**Justification** — **Attach** any documents to which you refer in Section II-B.

From: **Eric Gumm** gummj@acu.edu
Subject: Re: New Course Approval - Course Number
Date: September 30, 2021 at 5:03 PM
To: John Ehrke jee99a@acu.edu
Cc: Karen Witemeyer kmw03d@acu.edu

EG

John,

Thank you for your email. The MATH 101 course number is available for you to use with this new course proposal. Please let us know if we can be of any additional assistance.

In His Service,
Eric

Dr. Eric Gumm
Registrar and Director of the First-Year Program and Academic Development Center
Abilene Christian University
ACU Box 29104
Abilene, TX 79699-9104

On Wed, Sep 29, 2021 at 1:43 PM Karen Witemeyer <kmw03d@acu.edu> wrote:

---------- Forwarded message ---------
From: **John Ehrke** <jee99a@acu.edu>
Date: Wed, Sep 29, 2021 at 1:35 PM
Subject: New Course Approval - Course Number
To: <registrar@acu.edu>

Greetings,

In accordance with the new course approval process, I'm requesting authorization for the following course number and title.

MATH 101 - Introduction to the Math Major (2-0-2) - Introduction to the field of mathematics including careers in mathematics. Emphasis on the role of mathematics in society. Introduces students to professional tools for communicating mathematics through technology. Written and oral assessments emphasize creativity, reflection and analysis over calculation.

Prerequisites: For MATH and MATT majors only.

Thanks,

Dr. Ehrke

Dr. John Ehrke
Associate Professor of Mathematics
Department of Mathematics
Abilene Christian University
161D Onstead Science Center | ACU Box 28012 | Abilene, Texas 79699-8012
Tel: 325-674-2162

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Karen Witemeyer
ACU Catalog Specialist
kmw03d@acu.edu

ABILENE CHRISTIAN UNIVERSITY

College of Arts and Sciences
Department of Mathematics

MATH 101
Introduction to the Mathematics Major
Section 01
Fall 2022

Syllabus

Contact Information

Instructor: Dr. John Ehrke, Associate Professor of Mathematics
Email: john.ehrke@acu.edu
Phone: 325-513-4242 (cell), 325-674-2162 (office)
Office: Onstead Science Center 161D

Instructor Availability

It is my responsibility as the instructor to provide timely responses to all email or personal communications in a respectful and professional manner. In kind, the same applies to student communications with the instructor.

In-Person Office Hours: Monday 3-5 PM, Wednesday 2-4 PM
Zoom Office Hours: Tuesday 1:30 - 4:30 PM

This is a recurring meeting that meets from 1:30 - 4:30 PM on Tuesday starting on the first week of class.

Join Zoom Meeting

https://acuonline.zoom.us/j/8095293581

Meeting ID: 809 529 3581

Mission Statements

This course supports ACU's mission statement of preparing students for Christian service and leadership throughout the world by providing students a foundational understanding of the mathematical principles such as problem solving and decision making, as well as exposing students to the role of mathematics in a Christian worldview.

The mission of the College of Arts and Sciences is to engage students with humanity's greatest ideas to create understanding, apply insights, and serve the world as original Christian thinkers and problem solvers.

The mission of the Department of Mathematics is to educate students to be quantitative and analytical thinkers in preparation for Christian service and leadership throughout the world.

Course Information

Credit Meeting and Hours Information

This is a 2 credit hour course that meets on Monday and Wednesday each week.

Room: TBD
Time: 2:00 - 2:50 MW

Course Description and Purpose

MATH 101 - Introduction to the Math Major (2-0-2) - Introduction to the field of mathematics including careers in mathematics. Emphasis on the role of mathematics in society. Introduces students to professional tools for communicating mathematics through technology. Written and oral assessments emphasize creativity, reflection and analysis over calculation.

Prerequisites: For MATH and MATT majors only.

Course Goals

- Provide students, new to the major and the department, the opportunity to build community with their fellow mathematics majors.
- Develop mathematical writing, reading, reasoning, critical thinking and communication skills to help students transition from high school to college.
- Introduce students to possible career paths in mathematics and explain how they can work toward their vocational aspirations through studying mathematics.
- Integrate community-based learning with readings and discussions about the role of mathematics in our society, addressing the "social context of mathematics".
- Introduce students to technology-based tools of the profession.
- Expose students to departmental faculty, alumni, areas of research, and job, internship and scholarship opportunities.

Course Materials

Course Readings: In lieu of a course text, students will be exposed to a variety of course readings.

1. *The Signal and the Noise: Why So Many Predictions Fail - But Some Don't* by Nate Silver. New York: Penguin Press, 2012.
2. *Sustainability Education: The What and How for Mathematics*, by J.G. Hamilton, T.J. Pfaff. PRIMUS 24(1), (2014).
3. *Mathematics and Democracy: The Case for Quantitative Literacy*, by Lynn Arthur Steen, National Council on Education and the Disciplines, Princeton, NJ, 2001.
4. *A series of articles related to modern day gerrymandering and the mathematicians who fight for equal representation. Excerpts from the collection at mggg.org.*
    a. *Rebooting the Mathematics Behind Gerrymandering*, by Moon Duchin and Peter Levine. The Conversation.
    b. *How to Quantify (and Fight) Gerrymandering,* by Erica Klarriech, QuantaMagazine.
    c. *The Mathematicians Brief in Rucho vs. Common Cause*, mggg.org/amicus.
5. *Of Course 2+2=4 is Cultural. That Doesn't Mean the Sum Could be Anything Else*. by Keith Devlin.

Calculator: In addition to the required text, students should bring a calculator with them each day to class. The TI-84 calculator is the department-supported model, but other handheld calculators are acceptable alternatives. On occasion, certain class meetings will ask students to bring a laptop or tablet to class to explore other calculator options like Desmos and Maple.

Learning Management System: In addition to the course texts and calculator, this course will make use of the Canvas learning management system (LMS). Canvas can be accessed through the myACU portal and will host assignments, discussions, and a variety of lecture resources including links to slides and videos. Canvas also features a course calendar with due dates for various assignments as well as class prep lists. We will reference Canvas early and often throughout the semester.

Course Competencies

The course objectives below describe the outcomes of the course in terms of specific and measurable actions, capabilities, or skills students will be able to perform as a result of experiences in the course.

Course Competencies	Developing these Competencies
Students will develop proficiency in writing professionally typeset solutions to open-ended problems in mathematics.	Students will develop this competency through in-class LaTeX exercises and assigned problem solving write-ups.

Students will identify a wide variety of professions in mathematics and be able to compare and contrast the paths needed to aspire to those professions.	Students will develop this competency through in-class discussions, reading assignment discussions, and completion of a graduation plan.
Students will reflect on their experiences during their first semester through the lens of developing a mathematical habit of mind.	Students will develop this competency through in-class discussions, a reflective reading assignment discussion, and completion of a graduation plan.
Students will integrate community-based learning and mathematics to develop a mathematical framework for solving problems in society.	Students will develop this competency through completion of the mathematics in community project and associated reading discussions.

Course Schedule

The following is a list of the course meeting dates and topics that will be discussed during each class meeting.

Week 1 Class 1 - Introduction to the Course Class 2 - What is community-based learning?	Week 2 Class 3 - Community partner introductions Class 4 - Is mathematics a culture?
Week 3 Class 5 -The Game of SET Class 6 - Problem Solving Prompt #1 Community partner observation proposal due.	Week 4 Class 7 - Introduction to LaTeX Class 8 - What does good math writing look like?
Week 5 Class 9 - Math department service project Class 10 - Developing a graduation plan Reading Discussion 1 Due	Week 6 Class 11 - Careers in mathematics Class 12 - Practicing mathematicians panel Problem Solving Writeup #1
Week 7 Class 13 - Community building event #1 Class 14 - Create your own POTW Graduation Plan Due	Week 8 Class 15 - Student Vocation Presentations I Class 16 - Student Vocation Presentations II
Week 9 Class 17 - SCOM - The Art of Mathematics Class 18 - SCOM - Mathematics in pop-culture	Week 10 Class 19 - SCOM - Misuse of mathematics Class 20 - Community building event #2

Week 11 Class 21 - SCOM - Quantitative literacy Class 22 - SCOM - Quantitative ethics	Week 12 Class 23 - SCOM - Mathematics of fairness Class 24 - SCOM - Gerrymandering and voting Reading Discussion 2 Due
Week 13 Class 25 - SCOM - Math and democracy Class 26 - SCOM - Sustainability Problem Solving Write-Up #2	Week 14 Class 27 - Internships and REUs. Class 28 - Community building event #3 Reading Discussion 3 Due
Week 15 Class 29 - Instructor choice Thanksgiving Holiday Community observation journal due.	Week 16 Class 30 - Instructor choice Class 31 - Semester self-reflection
Final Exam Week Mathematics in Society Reflection Presentation	

Course Assessments

This course utilizes a standard points-based grading system allowing students to earn up to 1000 points from various assessments throughout the semester. Your grade in the course will be based on the following tiers at semester's end.

Point Total Earned	Letter Grade Received
1000 - 900	A
899 - 800	B
799-700	C
699-600	D
< 600	F

Since the grading scheme is point based - every point in the course is created equal. A point lost on a quiz is the same as a point lost on a test. *All assessments matter!* There are five different assessment types that you will encounter in the course:

Assessment	Number	Points
Reading Discussions	3	300
Mathematics Vocation Presentation	1	100
Graduation Plan	1	100
Mathematical Analysis Writing Assignment	2	200
Mathematics in Community Project	3	300
Totals	10	1000

Description of Assessments

Reading Discussions x 3 (300 points)
Students read selections from the course readings and complete a written reflection in Canvas responding to a given prompt.

- Reading Discussion 1 - Is Mathematics A Culture?
    - Does mathematics have a culture of its own and to what extent does that culture impact the way in which we learn about, engage with, and communicate mathematics? Is mathematics a universal truth we study or the culture of adopted truths we derive from the study itself? As mathematics majors you are more likely to be part of a mathematics culture if such a thing exists. How is the view of mathematics different for someone outside your culture?
- Reading Discussion 2 - Mathematical Modeling - Prediction vs. Reality
    - A famous quote in mathematics, "all models are wrong, but some are useful", highlights an important reality of studying mathematics. Mathematics has the power to predict and model wonderful things, but that power must be wielded wisely. Sometimes models can be wrong, sometimes predictions fail. With this in mind, what considerations should a mathematician make in applying tools of the trade to real world problems?
- Reading Discussion 3 - A Last Math Class For Responsible Citizens
    - To what extent does the continued evolution and strengthening of democratic ideals rely on a quantitatively literate society? Students engage with quantitative information in the media and try to make sense of data on things like poverty, health, and immigration - highly quantitative topics while thinking about the average consumer. If you were designing a last math class that a student would ever take, what do you feel like the subject material of that course should be?

Mathematics and Vocations Presentation (100 points)
Students select a vocation in mathematics and present a 5-8 minute presentation about their vocation including certain information designated by the instructor. Class time will be devoted to introducing a wide range of career options. Each student in the course will have to pick a different career on which to focus their presentation. A panel of practicing professionals in mathematics will offer students the opportunity to ask questions about career experiences in mathematics.

Graduation Plan (100 points)

Students work with their departmental mentor, their advisor, and their course instructor to develop a graduation plan. Graduation plans must meet all departmental and university requirements including any spiritual formation or experiential learning requirements.

Mathematical Analysis Writing Assignments x 2

Students are given mathematical problems that originate from the world around them. Students submit their solutions using LaTeX to typeset the mathematics involved. Write-ups are required to integrate mathematical tools appropriate for analysis with clear and concise details of the mathematical foundations of their chosen problem.

- M.A.W.A. 1 - The mathematics of games.
    - Students will analyze a game of their choice mathematically. More precisely, students will analyze some facet of a game mathematically. Responses must be at least 500 words in length and no more than 1000 words in length.
- M.A.W.A. 2 - Math in pop-culture - an analysis.
    - Students will pick a usage of mathematics in pop-culture to analyze. Students may select a mis-use of mathematics in pop-culture with multiple examples and evaluation to support their claim. Alternatively, students may look at a more complicated example where math is creatively used in pop-culture with appropriate analysis. Responses must be at least 500 words in length and no more than 1000 words in length.

Mathematics in Community Project (300 points)

Community Based Learning - Assessment of student's knowledge through a variety of real-life skills - writing, art, communication, organizational, social, mathematical, and technical - to create some product or service showcasing their knowledge to a community partner.

Students will engage in a community based learning experience provided by a community partner. The nature of this experience will depend on which community partner students work with and will culminate in a reflection of what their experiences have taught them about the "social context" of mathematics, i.e. how does the world view mathematics and depend on mathematics? Completion of this project will require the following.

- 20 hours of observation with a local community contact working in the field of mathematics, documented by the contact. (50 points)
- Completion of a reflection journal on observation experiences. (50 points)
- Reflection on the role of math in community presentation (200 points)

Students will be asked to pick a particular problem our community faces. The concept of community here can be interpreted as the local Abilene community, the ACU community, or a broader social sense of the term. Presentations will define the community in question, address the importance of the problem to that community, and explain how mathematics or math professionals are important to solving the problem. Students will reflect on their course experiences and community observation experiences to explain what they learned about the "social context of mathematics" this semester. Presentations will occur during the final exam period. Each student will have 6-8 minutes to present.

Course Policies and Expectations

Classroom and Communication Policies

Make Up Policy

During the semester, many assignments will have due dates posted on Canvas and announced in class. The purpose of a due date is to give you a timeline within which to work and allow for formative assessment of your work. An assignment, once due, will not be accepted under any circumstance if any of the following have occurred:

- The assignment is not submitted before an answer key is posted.
- The assignment is not submitted before being closed. This applies to Canvas discussions and any assignments completed in Learning Catalytics or in an online homework portal. These have rigid closure times and once closed will not be reopened.
- The assignment is not submitted before grading begins.

In addition, assignments will incur a 10% penalty for each of the following infractions that occur. This includes all assignments in the course - including major assignments - so be careful to follow all given instructions precisely.

- Assignments not turned in on time will receive a 10% penalty for each day it is late.
- Assignments turned in where instructions are not followed will receive a 10% penalty for each infraction.

Penalties are additive, rather than multiplicative, so if an assignment is turned in 2 days late and an instruction was not correctly followed, then there are three infractions for a total penalty of 30%, meaning the highest grade the assignment could receive is a 70%. (Effectively, I will multiply whatever grade you earn by 0.7 to determine the adjusted grade in this case.)

Please note that you are responsible for working with your group on collaborative assignments -- like the modeling projects -- even if you are not in class on the day groups are assigned. Failure to work with your group in a good faith manner will render you ineligible for credit with the rest of your group. Any group wishing to dismiss a member of the group for inaction must inform the instructor at least three days before the due date. You may opt to complete the assignment on your own for credit if you are dismissed from a group.

In the case of extenuating circumstances, such as illness, injury or other personal emergency you can request an extension for assignments. Any such requests must be made in advance of the due date or class date; requests made after the due date or the start of class where a quiz is taken will not be honored. This means that if you have a conflict that prevents you from attending class to complete an assignment you must notify the instructor before class begins and arrange a time/date to make up the assignment. This policy applies to all assignments including exams/projects. Please note that some assignments cannot have extended due dates and will require you to complete the assignment early if there is a conflict.

Finally, you are ultimately responsible for ensuring that your grade in the course is being calculated correctly according to this syllabus and that there are no missing or incomplete grades in the Canvas

gradebook. The instructor will make every effort to keep the gradebook up-to-date and accurate but mistakes can sometimes be made. Please be diligent in taking ownership of your grade and performance in this course.

Attendance and Drop Policy

Your regular attendance is both necessary and expected. You are responsible for all material covered while absent and will be expected to take regularly scheduled exams and are responsible for turning in work on the assigned dates. Attendance will be recorded at the beginning of each class. If you come in after attendance is taken you will be counted absent. So make every effort to arrive in class on time, prepared for class. Only university approved absences can exempt you from being counted absent.

Per university policy, university approved absences must be cleared with the instructor one week in advance. Make your sponsors aware that failure to comply with this policy will affect your attendance record in this class.

If you need to drop this class, please discuss it with your instructor first. The **instructor will never initiate a drop** so it is your responsibility to make an informed decision when it comes to dropping or not dropping this course.

Academic Integrity Policy

The most powerful motive for integrity and truthfulness comes from one's desire to imitate God's nature in our lives. As a community of Christian students and scholars, we are each responsible to expect behaviors from each other consistent with the nature of God, to respect the community, and to respect ourselves.

Expectations of academic honesty and integrity extend to both university employees and students. Every member of the community is responsible for protecting the integrity of learning, scholarship, and research. Being responsible requires action against violations in spite of peer pressure, loyalty, or compassion. Individuals must take responsibility for their own conduct and discourage misconduct by others.

Definition of Academic Integrity

Academic integrity is defined as academic work completed as assigned for each class by the individual or group responsible for the work. Academic work includes but is not limited to reading assignments, homework assignments, assessments, examinations and tests, attendance at required out-of-class activities, written or oral presentations, and laboratory experiments and research.

Violations of academic integrity and other forms of cheating involve the intention to deceive or mislead or misrepresent and therefore, are a form of lying. Specific examples of violations of academic integrity in this course include, but are not limited to, the following:

- Submitting for credit, in whole or in part, the work of others.

- Receiving, giving, or using unauthorized aid on an examination, test, quiz, or assignment (e.g., texting).
- Viewing the answers of a nearby classmate during an examination, test, quiz, or assignment.
- Having inappropriate notes/practice work available during an examination, test, quiz, or assignment.
- Obtaining examination, test, or quiz questions before the examination, test, or quiz is given.
- Accessing printed copies or electronic copies of formulas and/or notes during an examination, test, quiz, or assignment without instructor approval.
- Failure to give credit to sources used in a work in an attempt to present the work as one's own.
- Submission of paper(s), project(s), or assignment(s), in whole or in part, obtained from any source, such as a friend, research service, or club paper file, as one's own.
- Allowing other members of a group to provide a disproportionate fraction of a required group project or activity.
- Claiming credit for an attendance or service activity without attending or performing the activity.
- Written or oral presentation of falsified materials and facts, including but not limited to the results of interviews, laboratory experiments, and field-based research.

Consequences of Breach

Violations of academic integrity may result in, but are not limited to, the following consequences:

- A first offense will result in a grade of 0 on the assignment in which the violation of academic integrity occurred.
- You will be permitted to remain in the class after the first offense of being found in violation of the academic integrity policy.
- A second violation in a class will result in an automatic grade of F in the course.
- All violations of academic integrity will be reported to the Dean of the College of Arts and Sciences and the Dean of Students in the Student Life Office.

Appeal Process

If you would like to appeal a decision, then please follow this link to file an appeal:
http://www.acu.edu/campusoffices/studentlife/judicialDocuments/AcademicIntegrityPolicy.pdf

Disability Accommodations

Abilene Christian University is dedicated to removing barriers and opening access for students with disabilities in compliance with ADA and Section 504 of the Rehabilitation Act. The Alpha Scholars Program facilitates disability accommodations in cooperation with instructors. In order to receive accommodation, you must be registered with the Alpha Scholars Program, and you must complete a specific request for each class in which you need accommodations. If you have a documented disability and wish to discuss academic accommodations, please call our office directly at 325-674-2667.

Medical and Mental Care

ACU is committed to making the return to campus as safe as possible by providing students, faculty and staff with resources to promote their health. We will continue working tirelessly to fine-tune our

cleanliness and hygiene protocols. The ACU Medical and Counseling Care Center, along with Wildcat Care, are available to assist you with medical and mental health needs. Now more than ever, telehealth is an excellent resource, allowing you to stay healthy, talk with a provider 24/7 and greatly limit your exposure to COVID-19. Many medical concerns, such as a cold, sinus infection, rash, nausea, etc., can be discussed via telehealth. In addition to providing in-person care for your medical needs, the ACU Medical Clinic can provide COVID-19 testing with same-day results.

If you experience symptoms related to COVID-19 while on campus, please use our Coronavirus Screening Tool by visiting Wildcat Care and clicking the button at the top of the page. If you are experiencing emotional distress, you can discuss your feelings and concerns with a mental health provider through Wildcat Care as well.

If you experience symptoms related to COVID-19 while on campus, please use our Coronavirus Screening Tool by visiting Wildcat Care and clicking the button at the top of the page. You can discuss your feelings and concerns with a mental health provider through Wildcat Care as well.

Anti-Harassment Policy

As a professor, one of my responsibilities is to help create a safe learning environment on our campus. I also have a mandatory reporting responsibility related to my role as a professor. It is my goal that you feel able to share information related to life experiences in classroom discussions, in your written work, and in our one-on-one meetings. I will seek to keep the information you share private to the greatest extent possible. When I am not able to keep your information confidential, I will only share it with responsible administrators on campus who can provide you with services and resources. I am required to share with the Title IX Coordinator information regarding sexual misconduct or harassment, dating or domestic violence or stalking that you report to me. If you would prefer to share information in a confidential setting, I encourage you to speak with someone in the ACU Counseling Center. All of your options are available for review by clicking on the link to ACU's policy.

Dr. John Ehrke
Onstead Science Center 161D
john.ehrke@acu.edu

October 1, 2021

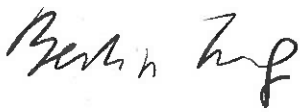
Re: Review of Math 101

Dear Dr. Ehrke,

Thank you for submitting the application for the course *Math 101: Introduction to Mathematics Major*. I have reviewed it based on the ACU New Course Application Guidelines. I find the syllabus to be meeting all the requirements in an exemplary way, except that you need to add the Title IX policy that the guideline requires. I will attach a sample text for your reference.

Please note that this letter is not meant to be a final approval in the course application process. Members of the council may have questions or comments of their own.

If you have any questions, please feel free to let me know. Please also let me know if we can be of any help in the design and facilitation of this course.



Director of Instructional Design
Adams Center

ABILENE CHRISTIAN UNIVERSITY

LIBRARY

M E M O R A N D U M

DATE: October 6, 2021

TO: Dr. John Ehrke

FROM: Mark McCallon, Associate Dean for Library Services

RE: Course Application for MATH 101 – Introduction to the Math Major

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After reviewing the course application, the library is able to support the proposed course. Please contact your Librarian Liaision, Mark McCallon (mccallonm@acu.edu), if any additional resources are needed in support of the course. Thank you for letting the library review the course application.