

**MATH 4020**  
***Mathematics for Elementary Teachers II***  
Spring 2021, MWF 11:50-1:10  
Lab: Wednesdays 1:25-2:15  
IVC Delivery – Synchronous Meetings via Zoom

**Course Section:** Math 4020-003

**Instructor:** Amanda Cangelosi (she/they)

Office: JWB 217 (but effectively, Zoom)

Email: cangelos@math.utah.edu (note the missing i)

**Office Hours** Mon/Wed 4:30-6:30, or by appointment

**Contacting Amanda:** Email is the best way to contact Amanda. She won't be in her office much this semester. Amanda can typically respond to email or Canvas messages within 24-48 hours. Amanda is always happy to arrange a Zoom meeting with you, so please never hesitate to ask.

**Learning Assistant:** Madeline Hundley (use Canvas messaging to contact Maddi)

**Course Homepage:** Online via Canvas, at <https://utah.instructure.com>, using your UID and CIS password. Official announcements and homework assignments will be posted here, as well as our Zoom meeting access, so check Canvas regularly for updates and important information. You're encouraged to forward Canvas messages and announcements to your Umail to receive information efficiently (this can be arranged in your Canvas settings).

**Lecture and Lab Format:** This class is listed as an IVC course in the university catalog, which stands for Interactive Video Conferencing. This means that the class will be delivered "synchronously?", i.e. live and at the time listed but entirely online. We will meet via the Zoom video conferencing software, which you will access directly through the course Canvas page. If you don't have Zoom you can download it for free from [zoom.us/download](https://zoom.us/download). It is strongly suggested that you have a webcam and microphone to fully participate in the class but you should not need anything else. It is also possible to dial in to hear the audio with just a phone. The Zoom meeting details for lectures and labs (Meeting ID and passwords) will be available on Canvas. The same Meeting ID will be used for all lectures and labs. Zoom meeting recordings will be available through Canvas after each lecture.

The lecture portion of class will consist of pre-made slides which will be annotated during class discussions and posted to Canvas after class on the same day. Lecture will include whole-group and small-group discussions as you work through various class activities, utilizing both inquiry-based and explicit instructional methods. The lab portion of class will be comprised of small group work that provides either extra practice or classroom puzzles relevant to lecture topics. Assessments for the lecture and lab components of class will be described below.

All meetings will be recorded and posted to our Canvas page, should students be unable to attend lecture meetings. Meetings will be interactive, utilizing Zoom breakout rooms. **Since life is unpredictable during the pandemic, and since this Spring 2021 course needs to support students who work in schools during the class time, all students will receive participation points by communicating with each other in assigned groups via Flipgrid, regardless of whether or not the students were able to attend class live on any given day. Details given below under "Participation."**

**Course Content:** This course is the second in a two-semester sequence of required mathematics courses for elementary school teachers. The sequence is designed to help K-6 preservice teachers develop a conceptual framework for mathematics, especially for those aspects normally experienced in

primary and elementary school. Students consider both mathematical and pedagogical issues in teaching and spend a six-hour practicum (altered for COVID-19 circumstances) relating their course work to the classroom situation. **Students must complete the practicum in order to pass the course.** In addition, here is a required lab component to this course. Math 4020 covers geometry, statistics, and probability (the majority of our time will be spent on geometry).

**Textbook:** *Mathematics for Elementary Teachers with Activities* (5th edition), by Sybilla Beckmann. ISBN-13: 978-0134392790. We will discuss material from chapters 10-16 of this text, and homework exercises will be assigned from it.

**Manipulatives:** We will be using physical manipulatives (e.g., Pattern Blocks, interlocking cubes, GeoStix) as well other tools (e.g., protractors, compasses, dice) during class. Amanda will provide sanitized materials in personalized baggies for you to be picked up on a specified day at the beginning of the semester. These materials will need to be returned at the end of the semester. If you wish to not use physical manipulatives, there will be electronic alternatives, but note that we wish to learn math through the same sensory experiences that our future students are expected to learn math.

### Resources and Media:

- Zoom — links provided in Canvas
- Google Docs — links provided in Canvas
- Flipgrid — embedded within Canvas
- Camscanner — highly recommended for scanning your work to be uploaded
- Padlet — links provided in Canvas if used

### How You Will Be Graded:

- Homework: 20%
- Participation: 10%
- Labs 10%
- Practicum: 10% (required to pass)
- Mastery Objectives & Portfolio: 50%

**Homework:** Homework from textbook problems, as well as class handouts & activities, will be due on various days throughout the weeks, as indicated in Canvas. Most homework assignments will require that you scan and upload your work to Canvas, while other assignments may be Flipgrid video uploads. A subset of each written assignment will be scored for correctness and pedagogical structure, as well as completion. Here, “pedagogical structure,” refers to the way in which you explain your solutions, as if you were classroom teacher explaining your solutions to your students, with attention to wording, sense-making, and representation. Your lowest (1) homework will be dropped.

Homework Late Work Policy: For each day that a homework assignment is late, 2 points will be docked. (Each assignment is worth a different amount of points, according to length and complexity.)

**Participation:** This semester is interesting in that we must support two populations with two schedules (traditional and non-traditional students who work in schools during our class time), and yet it is crucial to experience Math 4020 content in the same kind of collaborative learning structures in which you are expected to teach it. Thus we must work together to support each other and foster a collaborative community. We will do this in what Amanda is calling “**Learning Pods**,” groups of approximately four of you, roughly two of you who can attend class synchronously and two who have some work complications (but also stories to share from the real-world classroom!). Your Learning

Pods are your “foster peers,” and you’re going to take responsibility for each other’s learning to the best of your ability. **We will stop lecture ~10 minutes before class ends** to give students who were present in class time to post Flipgrid videos that allow you to share work and raise questions within your Learning Pod. Later that afternoon, the members of your pod who were unable to attend class will watch the Zoom recording, and then post Flipgrid videos that share their work and address questions. Flipgrid videos should be checked regularly and correspondence should continue as needed in any video/comment thread. **Flipgrid correspondence will be assigned for every class meeting.** Learning pods change half-way through the semester, so you’ll be interacting with two different sets of foster peers. Your lowest 3 participation scores will be dropped.

Participation Late Work Policy: Flipgrid videos that are posted late will be docked 1 point for each day it is late. (They are worth 5 points each.)

**Labs:** There is a required lab component of this course. Students should be registered for the lab section, which is held on **Wednesdays, 1:25-2:15 pm**, and is facilitated by a Learning Assistant. Our lab session provides an opportunity to engage in collaborative learning and work on your textbook homework assignments and some mastery objectives. You will turn in a rough draft of your work from lab and earn points based on your product (not scored for correctness) as well as your engagement with your group according to the LA’s observations. Your lowest 2 lab scores will be dropped.

Lab Late Work Policy: For each day that a lab is turned in late, you will lose 2 points. (Labs are worth 10 points each.)

**Practicum:** Each student will spend six hours engaging in work related to the practicum. Due to COVID-19 circumstances, we have an unusual practicum format. You will be working with your Learning Pods to create collective reports, and you will be required to make time to discuss your practicum experiences together outside of class time. Learning Pods change halfway through the semester, so your Practicum Report I will be completed with one group of foster peers, while Practicum Report 2 will be completed with another. Details will be discussed in class and posted to Canvas. **You must complete the practicum to pass this class.** While these are collective reports, each student will be given an individual grade based upon their portion of the collective reports. No practicum reports will be dropped.

Practicum Late Work Policy: Practicum reports can be turned in late without penalty. Just be sure to communicate your group’s plan to Amanda.

**Mastery Objectives and Portfolio:** In lieu of regular exams and quizzes, you will be demonstrating competency on a set of objectives (which essentially appear as a series of mini-exams, but we’re not calling them exams/quizzes). There are tentatively 35 mastery objectives, and, roughly every two weeks, you will be given an opportunity to demonstrate competency on approximately 6 of them at a time. These will be offered as take-home, open-note, open-colleague opportunities, but you must turn in your own unique solutions. Each objective will be scored on a scale from 1-5. You can re-take each objective **twice**, but resubmissions will be accepted in increments of approximately one week following your prior submission. More details regarding logistics will be discussed in class. Mastery Objective assessments will be published during class on the Friday before they are due; their tentative due dates are as follows, by **11:59 pm**:

- Mastery Objectives 1-6: February 13
- Mastery Objectives 7-12: February 27
- Mastery Objectives 13-18: March 13
- Mastery Objectives 19-24: March 27

- Mastery Objectives 25-30: April 10
- Mastery Objectives 31-35: April 24

A list of our Mastery Objectives is given in Canvas, defining each objective, as well as a scoring rubric.

In lieu of a regular final exam, you are going to compile a **Mastery Portfolio**, which will be a compilation of your final mastery objectives work, neatly organized into a single document (which can be referenced in your EDU 5360 class next year!). This should showcase your best work. Your Mastery Portfolio will be due on **May 4 by 11:59 pm**.

Mastery Late Work Policy: Late mastery objectives work will not be accepted, but of course you can resubmit them twice anyway. A late mastery objective item will be counted as a second submission. Your portfolio cannot be accepted late, but that shouldn't be an issue since it's a compilation of work that you've already done—just make sure you organize and upload it on time.

### Grade Breakdown by Percent:

A (100-93); A- (92-90); B+ (89-87); B (86-83); B- (82-80); C+ (79-77); C (76-73); C- (72-70); D+ (69-67); D (66-63); D- (62-60); E (59-0).

### Tentative Schedule

Meetings	Topic/Section
Jan 20-22	Introductions and course info; materials pickup
Jan 25-29	<i>Geometry Labs</i> Angles; Text 10.1, 10.3
Feb 1-5	<i>Flatland</i> ; Polygon angle sums; 10.4
Feb 8-12	More 10.4; Measurement 11.1, 11.2
Feb 15-19	NO CLASS Feb 15; Measurement 11.4; Area 12.1, 12.2
Feb 22-26	Area 12.3, 12.4; <i>Geometry Labs</i> Geoboard Area
Mar 1-5	Shearing 12.5; Circles 12.6; NO CLASS Mar 5
Mar 8-12	Perimeter vs. Area 12.7; Right Triangle Theorem 12.9
Mar 15-19	Polyhedra & solids 13.1; Surface area 13.2
Mar 22-26	Volume & Cavalieri 13.3; Review & Enrich
3/29-4/2	Symmetry 14.2; <i>Geometry Labs</i> Symmetry; Review & Enrich
Apr 7-9	NO CLASS Apr 5; Statistics 15.1, 15.2
Apr 12-16	Meas. of center 15.3; Distributions 15.4
Apr 19-23	Probability & counting 16.1, 16.2; 16.4
Apr 26	Last day of class = 4/26: Materials Return

**Content Accommodations:** Consistent with principles of academic freedom, the faculty, individually and collectively, has the responsibility for determining the content of the curriculum. Students are expected to take courses that will challenge them intellectually and personally. Students must understand and be able to articulate the ideas and theories that are important to the discourse within and among academic disciplines. Personal disagreement with these ideas and theories or their implications is not sufficient grounds for requesting an accommodation (see <https://regulations.utah.edu/academics/6-100.php>).

**Academic Code of Conduct:** Students are encouraged to review the Student Code for the University of Utah: <https://regulations.utah.edu/academics/6-400.php>. In order to ensure that the highest standards of academic conduct are promoted and supported at the University, students must adhere to generally accepted standards of academic honesty, including but not limited to refraining

from cheating, plagiarizing, research misconduct, misrepresenting one's work, and/or inappropriately collaborating. A student who engages in academic misconduct as defined in Part I.B. may be subject to academic sanctions including but not limited to a grade reduction, failing grade, probation, suspension or dismissal from the program or the University, or revocation of the student's degree or certificate. Sanctions may also include community service, a written reprimand, and/or a written statement of misconduct that can be put into an appropriate record maintained for purposes of the profession or discipline for which the student is preparing.

**Inclusivity Statement:** It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, and veteran status, and other unique identities. gender, sexuality, disability, age, socioeconomic status, ethnicity, race, culture, and other unique identities. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

**Discrimination and Harassment:** If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or Office of the Dean of Students, 270 Union Building, 801-581-7066. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS). Please see Student Bill of Rights, section E <http://regulations.utah.edu/academics/6-400.php>. I will listen and believe you if someone is threatening you.

**Names/Pronouns:** Canvas allows students to change the name that is displayed AND allows them to add their pronouns to their Canvas name. Class rosters are provided to the instructor with the student's legal name as well as "Preferred first name? (if previously entered by you in the Student Profile section of your CIS account, which managed can be managed at any time). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class or on assignments. Please advise me of any name or pronoun changes so I can help create a learning environment in which you, your name, and your pronoun are respected. If you need any assistance or support, please reach out to the LGBT Resource Center.

**Emerging Multilingual Students:** If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include: the Writing Center (<http://writingcenter.utah.edu/>); the Writing Program (<http://writing-program.utah.edu/>); the English Language Institute (<http://continue.utah.edu/eli/>). Please let me know if there is any additional support you would like to discuss for this class.

**Undocumented Student Support:** Immigration is a complex phenomenon with broad impact?those who are directly affected by it, as well as those who are indirectly affected by their relationships with family members, friends, and loved ones. If your immigration status presents obstacles to engaging in specific activities or fulfilling specific course criteria, confidential arrangements may be requested from the Dream Center. Arrangements with the Dream Center will not jeopardize your student status, your financial aid, or any other part of your residence. The Dream Center offers a wide range of resources to support undocumented students (with and without DACA) as well as students from mixed-status families. To learn more, please contact the Dream Center at 801.213.3697 or visit [dream.utah.edu](http://dream.utah.edu).

**Veterans Center:** If you are a student veteran, the U of Utah has a Veterans Support Center

located in Room 161 in the Olpin Union Building. Hours: M-F 8-5pm. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: <http://veteranscenter.utah.edu/>. Please also let me know if you need any additional support in this class for any reason.

**Wellness Statement:** Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at [www.wellness.utah.edu](http://www.wellness.utah.edu) or 801-581-7776.

**Student Success Advocates:** The mission of Student Success Advocates is to support students in making the most of their University of Utah experience ([ssa.utah.edu](http://ssa.utah.edu)). They can assist with mentoring, resources, etc. Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact a Student Success Advocate for support (<https://asuu.utah.edu/displaced-students>).

**The Americans with Disabilities Act:** The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability & Access, 162 Olpin Union Building, 801-581-5020. CDA will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability & Access.

**Addressing Sexual Misconduct:** Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veterans status or genetic information. If you or someone you know has been harassed or assaulted on the basis of your sex, including sexual orientation or gender identity/expression, you are encouraged to report it to the University's Title IX Coordinator; Director, Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or to the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to police, contact the Department of Public Safety, 801-585-2677(COPS).

**Campus Safety:** The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit [safeu.utah.edu](http://safeu.utah.edu)

**University Counseling Center:** The University Counseling Center (UCC) provides developmental, preventive, and therapeutic services and programs that promote the intellectual, emotional, cultural, and social development of University of Utah students. They advocate a philosophy of acceptance, compassion, and support for those they serve, as well as for each other. They aspire to respect cultural, individual and role differences as they continually work toward creating a safe and affirming climate for individuals of all ages, cultures, ethnicities, genders, gender identities, languages, mental and physical abilities, national origins, races, religions, sexual orientations, sizes and socioeconomic statuses.

**Office of the Dean of Students:** The Office of the Dean of Students is dedicated to being a resource to students through support, advocacy, involvement, and accountability. It serves as a

support for students facing challenges to their success as students, and assists with the interpretation of University policy and regulations. Please consider reaching out to the Office of Dean of Students for any questions, issues and concerns. 200 South Central Campus Dr., Suite 270. Monday-Friday 8 am-5 pm.

**Syllabus subject to change:** This syllabus is meant to serve as an outline and guide for our course. Please note that Amanda may modify it with reasonable notice to you. She may also modify the Course Schedule to accommodate the needs of our class. Any changes will be announced in class and posted on Canvas.