



# The Nature of Mathematics

#BiolaMath  

## MATH 120 – Fall 2017

### Syllabus Summary



Instructor: Mr. Matthew Weathers  
[Matthew.Weathers@biola.edu](mailto:Matthew.Weathers@biola.edu)

**Class web site:** <http://math.biola.edu/math120> (*Syllabus and general info*)

**Canvas site:** <https://canvas.biola.edu> (*Online grades, HW, and quizzes*)

The class web site will have information and instructions, with links to other things you need. I will also use your @biola.edu email as a way of sending class announcements and reminders.

#### My contact information:

By e-mail: [Matthew.Weathers@biola.edu](mailto:Matthew.Weathers@biola.edu)

By Phone: Cell phone: (562) 322-7427 (*OK to text/call 24hrs, I silence it at night & in class*)  
 Biola ext. 3277 or (562) 944-0351, ext. 3277 (*My Biola office*)

Math Dept. secretary: Jerriane Smith, Biola ext. 4741 or (562) 903-4741

Offices: Math Department, Grove Modulars, Unit #8. My office is nearby, Unit #10C.

**Lectures:** Tues/Thrs: 1:30–2:45 p.m.; 3:00–4:15 p.m.; Business building room 109 (Moats Aud.)

**My goals:** By the end of the semester, I hope to teach you:

1. An appreciation for the elegance and beauty of mathematics.
2. Some fundamental concepts in various branches of mathematics.
3. An introduction to some core quantitative reasoning skills.
4. To appreciate the historical and conceptual development of mathematics by studying some broad aspects of its history.
5. To gain insight into how mathematics interacts with philosophy and theology, as well as some other disciplines such as art, literature, science, behavioral economics, and astronomy.

#### Grading Scale

25% Homework (23 Assignments).

8% Quizzes/Participation (19 throughout the semester; I drop the lowest 3).

7% Online Group Discussions (7 throughout the semester; about every other week)

10% Paper on the 80-page novel *Flatland* (700-900 words), due October 31.

Or: Creative Option – more details on Canvas.

50% Test 1, Chapters 1-6, September 19. *Best three test scores out of four.*

Test 2, Chapters 8-11,13, October 17.

Test 3, Chapters 14-19, November 14.

Test 4, Chapters 21-26, December 12 or 14, by Final Exam Week Schedule:

**1:30pm section**=Tues, 12:30pm; **3:00pm section**=Thrs, 12:30pm;

(See <http://studenthub.biola.edu/finals> for Final Exam Week schedule.)

I will drop your lowest test score. These tests are not cumulative; I will not give you a cumulative final exam. Test 4 will take place during finals week, but will count the same as the other tests. See the schedule on page 3 for due dates of the 23 homework assignments. Homework turned in late but before the next test is 20% off. **No homework accepted after day of test for those chapters.** There is a 10% penalty for each day late for the *Flatland* paper.

**Full Syllabus:** This is just a summary – see Canvas for an online copy of the official, full syllabus.

**Required Texts: (These are both also available online for free)**

*Drawn to Infinity* Coursepack written by Walt Stangl and Dave Carlson. Available only in the Biola Bookstore (\$20.40), used books okay. Also on Canvas online for free in PDF format.  
*Flatland*, by Edwin A. Abbott, a short novel available [free online](#) (Or \$3.31 in the bookstore.)

**Calendar of Lectures and Tests: (Not Homework Due Dates)**

Week	Tuesday	Thursday
1	Aug 29 – Lecture Ch 1	Aug 31 – Lecture Ch 2
2	Sept 5 – Lecture Ch 3	Sept 7 – Lecture Ch 4
3	Sept 12 – Lecture Ch 5	Sept 14 – Lecture Ch 6, QR-A
4	<b>Sept 19 – TEST 1 (Ch 1 – 6)</b>	Sept 21 – Lecture Ch 8
5	Sept 26 – Lecture Ch 9	Sept 28 – Lecture Ch 10
6	Oct 3 – Lecture Ch 11	Oct 5 – Lecture Ch 13, QR-B
7	Oct 10 – Ch 13, Review	<b>Oct 11–13 Torrey Conf</b>
8	<b>Oct 17 –TEST 2 (Ch 8–11,13)</b>	Oct 19 – Lecture Ch 14
9	Oct 24 – Lecture Ch 16	Oct 26 – Lecture Ch 15
10	Oct 31 – Ch 17 – <b>Paper Due</b>	Nov 2 – Lecture Ch 18
11	Nov 7 – Lecture QR-C	Nov 9 – Lecture Ch 19
12	<b>Nov 14 – TEST 3 (Ch 14–19)</b>	Nov 16 – Lecture Ch 22
13	Nov 21 – Lecture Ch 23	<b>Nov 22–26 Thanksgiving</b>
14	Nov 28 – Lecture Ch 24	Nov 30 – Lecture Ch 25
15	Dec 5 – Lecture Ch 26	Dec 7 – Lecture Ch 21
Finals	<b>Dec 12 or 14 – Test 4 (Ch 21-26), according to finals schedule: 1:30pm class=Tues, 12:30pm; 3:00pm class=Thrs, 12:30pm</b>	

Final exam schedule: <http://studenthub.biola.edu/finals> or see your schedule on [my.Biola](#)

**Homework:** Write your name and chapter number legibly. Staple pages together, or write your name on each sheet. Do not staple multiple chapters together. **Show your work** when you can. Some answers are in the book for your reference, but you will not get credit for just copying the answers. Draw a box around each answer. Left edge of paper should be straight (no ragged edges from notebook).

Some homework will be turned in electronically, on Canvas.

**During Tests:** You may use a calculator, but not a cell phone calculator. No music. Tests are a mix of multiple-choice, fill in the blank and short problems. They last 75 minutes, and have about 45 questions. See Appendix 4 in the coursepack textbook for sample questions. Make-up tests are online.

**Biola’s Official [Academic Honesty Policy](#):** We are committed at Biola University to ethical practice in teaching, scholarship, and service. As such, plagiarism and other forms of academic dishonesty will not be tolerated. Please see the undergraduate/graduate student handbook and/or the departmental / program / school policy on academic honesty. It is imperative that you present all written, oral, and/or performed work with a clear indication of the source of that work. If it is completely your own, you are encouraged to present it as such, taking pleasure in ownership of your own created work. However, it is also imperative that you give full credit to any and all others whose work you have included in your presentation via paraphrase, direct quotation, and/or performance, citing the name(s) or the author(s) / creator(s) and the source of the work with appropriate bibliographic information. To do otherwise is to put oneself in jeopardy of being sanctioned for an act or acts of plagiarism that can carry serious consequences up to and including expulsion from the university.

## Homework Due Dates & Point Values

You can use this schedule to help yourself keep track of when homework and online discussions are due. I recommend putting these dates, the test dates, and the paper due date on your calendar.

	Chapter	Due Date	Points		Online Discussion Due Dates	
<b>Test 1</b>	1	Aug 31 Online	15	Shaded: Submit answers online on Canvas	<b>Introductions</b>	
	2	Sep 05	14		First Post - Aug 31	
	3	Sep 07 Online	9		<b>Discussion #1</b>	
	4	Sep 12	11		Initial Post - Sept 7	
	5	Sep 14	10		Responses - Sept 9	
	6	Sep 19	9		Last Day to turn in any late homework, Ch 1-6 is Sept 19	<b>Discussion #2</b>
QR-A	7		Initial Post - Sept 21			
<b>Test 2</b>	8	Sep 26	12	Last Day to turn in any late homework, Ch 8-11,13 is Oct 17		Responses - Sept 23
	9	Sep 28 Online	15			<b>Discussion #3</b>
	10	Oct 03	16			Initial Post - Oct 5
	11	Oct 05	14			Responses - Oct 7
	QR-B	Oct 10 Online	6		<b>Discussion #4</b>	
	13	Oct 17	12		Initial Post - Oct 26	
<b>Test 3</b>	14	Oct 24 Online	15	Last Day to turn in any late homework, Ch 14-18 is Nov 14	Responses - Oct 28	
	16	Paper Due Oct 31			<b>Discussion #5 (Tues)</b>	
	15	Oct 31 Online	11		Initial Post - Nov 7	
	17	Nov 02 Online	16		Responses - Nov 9	
	18	Nov 07 Online	12		<b>Discussion #6</b>	
	19	No Homework			Initial Post - Nov 30	
<b>Test 4</b>	QR-C	Nov 09	21	Last Day to turn in any late homework, Ch 21-26 is Dec 7	Responses - Dec 2	
	21	No Homework			<b>Optional Makeup #7</b>	
	22	Nov 21 Online	14		Initial Post - Dec 12	
	23	Nov 28 Online	12			
	24	Nov 30 Online	13			
	25	Dec 05	21			
	26	Dec 07 Online	15			

If you turn in a homework assignment late, there is a 20% penalty. You cannot turn in a homework assignment after the day of the test for that section. However, I will not take 20% off for the first two assignments you turn in late during the semester, just as long as it is still before you take the test.

About half of the homework assignments are listed as “Online” assignments. Do the homework on paper, as usual, but don’t turn in the paper. Instead, type in your answers on Canvas. You will be able to see your grade immediately (and re-do for more points). For non-online homework, turn in your homework on paper, and we will grade it and within a week or two; you will see your score on Canvas.

There are about 19 **Quizzes** but I will drop your 3 lowest scores. This is how I track attendance. (You must attend the entire 75-min class period to get credit). Most quizzes will be via cell phone text messages, so you may want to store this number in your cell phone: **Math 120 Quiz # (949) 390-9936** (I will have a paper option if do not have a phone or you cannot text.)

**Students desiring accommodations** on the basis of physical, learning, or psychological disability please contact the [Learning Center](#) (x4542) located in room U137, on the upper level of the library.

The **Flatland Paper** is worth 10% of the grade. See Canvas for full assignment prompt.

This paper should be **between 700 and 900** words long, and is due **Oct 31, 2017** preferably by the time of class but uploaded by 11:59 p.m. is not considered late. You can buy a copy of *Flatland* at the Biola Bookstore for \$3.31 (price includes tax), or you can read it online for free at: <http://www.geom.uiuc.edu/~banchoff/Flatland>

**To Turn In:** Turn this in through the Canvas system. If you use Microsoft Word, you can upload the Word document as-is. If you use any other word processor, do **Save As** and choose **Word format** or **PDF format**, and upload that version. I don't want a paper copy.

**Online Group Discussions:** Since we have a large class, it's hard for everyone to get a chance to contribute to the discussion, so we will do discussion online, on Canvas. You are in a group with 8 or 9 others. Answer the discussion prompt with a paragraph or two (about 200 words). The purpose of these discussions is to help you learn from each other and to give you a chance to think through some of the issues discussed in the lectures. Your initial post is due by 11:59 p.m. Thursday. (**August 31, Sept 7, Sept 21, Oct 5, Oct 26, Nov 7 (a Tuesday), and Nov 30**) You are then required to respond to at least two posts from others by 11:59 p.m. Saturday, **two days later**. These responses don't have to be long - maybe a sentence or two. However, they should be more substantial than "I agree!" or "Good post." Your responses should contribute to the discussion. Feel free to bring up other topics, or links to relevant content - whatever you think contributes to the discussion. These are worth 7% of your grade.

### Final Semester Letter Grade

Your final letter grade will be determined by a weighted percentage, which you can check on Canvas. This chart shows your final semester letter grade based on the percent you earn:

To get this grade	You need this percent
A	93%
A-	90%
B+	87%
B	83%
B-	80%
C+	77%
C	73%
C-	70%
D+	67%
D	63%
D-	60%
F	59.9%

**Extended Absences:** The [student handbook](#) says that "students who miss more than 20% of regular class sessions (even if absences are considered 'excusable') may be required to drop the course." If you miss **more than four weeks' worth of classes** (8 quizzes), you will earn a failing grade of "UW" – Unofficial Withdrawal. Learning to consistently attend is an important part of class.

**Homework extensions.** I cannot grant any kind of homework extension beyond the day of the final exam, Dec 14, 2017. According to the [faculty handbook](#), "All assignments must be in by the time of the final examination unless the Office of the Dean of Student Development or the dean of the instructional school has in advance granted an extension of time for some valid reason." (Ask about "Report Delay.")