



# The Nature of Mathematics

## #BiolaMath

### MATH 120 – Spring 2018

### 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, Lim Science Building #141. My office is in Grove #10C.

**Lectures:** Tues/Thrs: 3:00 – 4:15 p.m.; Business building room 109 (Moats Auditorium)

**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 March 20.

Or: Creative Option – more details on Canvas.

50% Test 1, Chapters 1-6, January 30. *Best three test scores out of four.*

Test 2, Chapters 8-11,13, February 22.

Test 3, Chapters 14-19, April 5.

Test 4, Chapters 21-26, May 1, 3:00–5:00pm or May 3, 12:30–2:30pm

(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	Jan 9 – Lecture Ch 1	Jan 11 – Lecture Ch 2
2	Jan 16 – Lecture Ch 3	Jan 18 – Lecture Ch 4
3	Jan 23 – Lecture Ch 5	Jan 25 – Lecture Ch 6, QR-A
4	<b>Jan 30 – TEST 1 (Ch 1 – 6)</b>	Feb 1 – Lecture Ch 8
5	Feb 6 – Lecture Ch 9	Feb 8 – Lecture Ch 10
6	Feb 13 – Lecture Ch 11	Feb 15 – Lecture Ch 13, QR-B
7	Feb 20 – Ch 13, Review	<b>Feb 22–TEST 2(Ch 8–11,13)</b>
<b>Spring Break – February 24 – March 4, 2018</b>		
8	Mar 6 – Lecture Ch 14	Mar 8 – Lecture Ch 16
9	Mar 13 – Lecture Ch 15	<b>Mar 14–16 Missions Conf</b>
10	Mar 20 – Ch 17 – <b>Paper Due</b>	Mar 22 – Lecture Ch 18
11	Mar 27 – Lecture QR-C	Mar 29 – Lecture Ch 19
12	Apr 3 – Review	<b>Apr 5 – TEST 3 (Ch 14–19)</b>
13	Apr 10 – Lecture Ch 23	Apr 12 – Lecture Ch 23
14	Apr 17 – Lecture Ch 24	Apr 19 – Lecture Ch 25
15	Apr 24 – Lecture Ch 26	Apr 26 – Lecture Ch 21
Finals	<b>May 1 or 3 – Test 4 (Ch 21-26)</b> , according to finals schedule: Tuesday, 3:00 p.m. <b>or</b> Thursday, 12:30 p.m., your choice.	

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
Test 1	1	Jan 11 Online	15	Green: Submit answers online on Canvas	<b>Introductions</b> First Post - Jan 11 <b>Discussion #1</b> Initial Post - Jan 18 Responses - Jan 20 <b>Discussion #2</b> Initial Post - Feb 1 Responses - Feb 3 <b>Discussion #3</b> Initial Post - Feb 15 Responses - Feb 17 <b>Discussion #4</b> Initial Post - Mar 8 Responses - Mar 10 <b>Discussion #5</b> Initial Post - Mar 29 Responses - Mar 31 <b>Discussion #6</b> Initial Post - Apr 12 Responses - Apr 14 <b>Optional Makeup #7</b> Initial Post - Apr 26
	2	Jan 16	14		
	3	Jan 18 Online	9	Yellow: Turn in paper copy in class.	
	4	Jan 23	11		
	5	Jan 25	10	Last Day to turn in any late homework, Ch 1-6 is Jan 20	
	6	Jan 30	9		
QR-A			7		
Test 2	8	Feb 06	12	Last Day to turn in any late homework, Ch 8-11,13 is Feb 22	
	9	Feb 08 Online	15		
	10	Feb 13	16	Last Day to turn in any late homework, Ch 14-18 is Apr 5	
	11	Feb 15	14		
	QR-B	Feb 20 Online	6	Last Day to turn in any late homework, Ch 21-26 is Apr 26	
	13	Feb 22	12		
14	Mar 08 Online	15			
Test 3	16	Paper Due Mar 20			
	15	Mar 20 Online	11		
	17	Mar 22 Online	16		
	18	Mar 27 Online	12		
	19	No Homework			
	QR-C	Mar 29	21		
Test 4	21	No Homework			
	22	Apr 12 Online	14		
	23	Apr 17 Online	12		
	24	Apr 19 Online	13		
	25	Apr 24	21		
	26	Apr 26 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 **March 20, 2018** 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. (**January 11, January 18, February 1, February 15, March 8, March 29, and April 12**) 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 here](#) 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, May 3, 2018. 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.")