





# The Nature of Mathematics

#BiolaMath  

## MATH 120 – Spring 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 April 4.

Or: Creative Option – more details on Canvas.

50% Test 1, Chapters 1-7, February 21. *Best three test scores out of four.*

Test 2, Chapters 8-13, March 21.

Test 3, Chapters 14-20, April 27.

Test 4, Chapters 21-26, May 23 or 25, 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 (\$20.63), used books okay. Also [on Canvas online](#) for free in PDF format. *Flatland*, by Edwin A. Abbott, a short novel available [free online](#) (Or \$3.30 in the bookstore.)

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

Week	Tuesday	Thursday
1	Jan 31 – Lecture Ch 1	Feb 2 – Lecture Ch 2
2	Feb 7 – Lecture Ch 3	Feb 9 – Lecture Ch 4
3	Feb 14 – Lecture Ch 5	Feb 16 – Lecture Ch 6, QR-A
4	<b>Feb 21 – TEST 1 (Ch 1 – 6)</b>	Feb 23 – Lecture Ch 8
5	Feb 28 – Lecture Ch 9	Mar 2 – Lecture Ch 10
6	Mar 7 – Lecture Ch 11	Mar 9 – Lecture Ch 13, QR-B
7	Mar 14 – Ch 13, Review	<b>Mar 15–17 Missions Conf</b>
8	<b>Mar 21–TEST 2 (Ch 8–11,13)</b>	Mar 23 – Lecture Ch 14
9	Mar 28 – Lecture Ch 16	Mar 30 – Lecture Ch 15
10	Apr 4 – Ch 17 – <b>Paper Due</b>	Apr 6 – Lecture Ch 18
11	Apr 11 – Lecture QR-C	Apr 13 – Lecture Ch 19
<b>Easter Vacation April 14 – 23, 2017</b>		
12	Apr 25 – Review	<b>Apr 27 – TEST 3 (Ch 14–19)</b>
13	May 2 – Lecture Ch 22	May 4 – Lecture Ch 23
14	May 9 – Lecture Ch 24	May 11 – Lecture Ch 25
15	May 16 – Lecture Ch 26	May 18 – Lecture Ch 21
Finals	<b>May 23 or 25 – 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 paper due date on your calendar.

	Chapter	Due Date	Points		Online Discussion Due Dates
Test 1	1	Feb 02 Online	15	Green: Submit answers online on Canvas	<b>Introductions</b> First Post - Feb 2 <b>Discussion #1</b> Initial Post - Feb 9 Responses - Feb 11 <b>Discussion #2</b> Initial Post - Feb 23 Responses - Feb 25 <b>Discussion #3</b> Initial Post - Mar 9 Responses - Mar 11 <b>Discussion #4</b> Initial Post - Mar 30 Responses - Apr 1 <b>Discussion #5 (Tues)</b> Initial Post - Apr 11 Responses - Apr 13 <b>Discussion #6</b> Initial Post - May 4 Responses - May 6 <b>Optional Makeup #7</b> Initial Post - May 18 Responses - May 20
	2	Feb 07	14		
	3	Feb 09 Online	9	Yellow: Turn in paper copy in class.	
	4	Feb 14	11		
	5	Feb 16	10	Last Day to turn in any late homework, Ch 1-6 is Feb 21	
	6	Feb 21	9		
	QR-A		7		
	Test 2	8	Feb 28	12	
9		Mar 02 Online	15		
10		Mar 07	16	Last Day to turn in any late homework, Ch 14-18 is Apr 27	
11		Mar 09	14		
QR-B		Mar 14 Online	6		
13		Mar 21	12	Last Day to turn in any late homework, Ch 21-26 is May 18	
14		Mar 28 Online	15		
16		Paper Due April 4			
Test 3	15	Apr 04 Online	11	Last Day to turn in any late homework, Ch 21-26 is May 18	
	17	Apr 06 Online	16		
	18	Apr 11 Online	12		
	19	No Homework		Last Day to turn in any late homework, Ch 21-26 is May 18	
	QR-C	Apr 13	21		
	21	No Homework			
Test 4	22	May 04 Online	14	Last Day to turn in any late homework, Ch 21-26 is May 18	
	23	May 09 Online	12		
	24	May 11 Online	13		
	25	May 16	21		
	26	May 18 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 **April 4, 2017** preferably by the time of class but sent by 11:59 p.m. is not considered late. You can buy a copy of *Flatland* at the Biola Bookstore for \$3.30 (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. (**Feb 2, Feb 9, Feb 23, March 9, March 30, April 11 (a Tuesday), and May 4**) 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 25, 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.")