| Course Information: | Credit Hours: 4.0 — This means you should set aside 8 to 16 hrs. per week, outside of class, studying and working on your Algebra. |
| | Target Audience: The 2-course sequence Mathematics 121 and 122 satisfies the Associate of Arts Degree general education mathematics requirement for elementary school teachers. |

| Math 121 | Mathematics for Elementary Teachers I |
| | [http://faculty.ccc.edu/llong/Math121](http://faculty.ccc.edu/llong/Math121) — This course focuses on mathematical reasoning and problem solving. Topics include operations with rational and irrational numbers; sets; functions; logic; numeration systems and number theory; solution of linear equations in one variable. Applications are included throughout the course. Problem-solving with the use of calculators and computers is emphasized throughout the course. Writing assignments, as appropriate to the discipline, are part of the course. **Prerequisite:** Intermediate Algebra and Geometry, or Consent of Department Chairperson. |

| Math 122 | Mathematics for Elementary Teachers II |
| | [http://faculty.ccc.edu/llong/Math122](http://faculty.ccc.edu/llong/Math122) — This course is a continuation of Math 121. Topics include probability and statistics; lines, angles, polygons, Pythagorean Theorem, circles, solids, areas, volume, measurements. Applications are included throughout the course. Problem solving with the use of computes is emphasized throughout the course. Writing assignments, as appropriate to the discipline, are part of the course. **Prerequisite:** Grade of C or better in Mathematics 121 or Consent of Department Chairperson. |

| Instructor Information: | Prof. Laurea Long |
| | Office: 702 C |
| | Email: llong@ccc.edu |
| | Website: [http://faculty.ccc.edu/llong](http://faculty.ccc.edu/llong) |
| | Office Hours: These are posted, or you may schedule an appointment |

<p>| Required Materials: | Textbook, Pencils, Notebook(s), Eraser(s) |
| | Geometric Tools: Straight-edge, compass, protractor. |
| | Be organized and write legibly. |
| | Create a self-Profile, As Soon As Possible, On--&gt; &quot;My Course 2.1&quot; at <a href="http://mycourse.thomsonlearning.com/">http://mycourse.thomsonlearning.com/</a> |
| | Math 121 Section #PR—Use Class ID: 84701 |
| | Math 122 Section #UW —Use Class ID: 84702 |</p>
<table>
<thead>
<tr>
<th><strong>Recommended Items:</strong></th>
<th>Email-address.</th>
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<tr>
<td></td>
<td>Online resources, Practice quizzes, Solution Manual and Study Study-guide, if available.</td>
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<tr>
<td></td>
<td>Read ahead &amp; write down questions; have &amp; use a notebook.</td>
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**Academic Standards/Dishonesty**

“Students are expected to behave in a manner appropriate to a place of study and learning… Students must maintain Academic Standards established by the District. Failure to meet Academic Standards and changes in Academic Status may affect financial aid eligibility…. Plagiarism and cheating of any kind are serious violations of these standards and will result, minimally, in the grade of “F” by the instructor”

Any student who cheats, attempts to cheat, or is suspected of cheating (as determined by the instructor) during a quiz/exam or any attempt to copy reports/ homework will receive a grade of zero for that assignment and possibly receive an F for the course and be reported to the administration.

[http://projects.ccc.edu/studentpolicies/studentpolicy.pdf](http://projects.ccc.edu/studentpolicies/studentpolicy.pdf) (downloadable PDF file)

**Final Course Grades:**

- Grades will **not** be posted nor emailed.
- You may bring a self-addressed-stamped envelope to the Final, or wait until the grades become available from Admissions and Records, via Soars.

**Calculators:**

- You need to learn not to rely on your calculator for your answers. You need to be able to show how you reached your solutions for credit. You will not be able to use them on quizzes, exams, the final, nor the placement exams. *In general*, calculators will **not** be used.

**Students with disabilities:**

- **Accommodated testing** for all students who have been authorized for academic adjustments/ accommodations for examinations/tests/quizzes is available.
- Submit the proper completed authorizations forms within the first two weeks of the course, to your instructor.
- Arrangements will need to be made with instructor and testing center prior to exams.

**Math Tutors:**

- Math tutors are available to help you in your quest for math supremacy. These good people are to be found in Room 702, the Math Department office. There is no charge to you nor is an appointment required to see them. I will announce the available tutoring times once their schedule is finalized. So if you have in the past found Math to be challenging please see them as soon as possible

**Other Online Resources:**

- [http://www.math.com](http://www.math.com)
- [http://math.college.hmco.com/students](http://math.college.hmco.com/students)
- [http://faculty.ccc.edu/colleges/hwashington/math/links.html](http://faculty.ccc.edu/colleges/hwashington/math/links.html)
Note from the instructor:

- The key to success in MATH and LIFE is to have a good POSITIVE ATTITUDE. Remember, to a great extent it is...

  "YOUR ATTITUDE THAT DETERMINES YOUR SUCCESS."

- Student input is encouraged throughout all classroom presentations, i.e., students are invited to ask and answer questions during lectures as well as to work collaboratively on in-class projects. Ideally, there is maximum student participation in each class period.

- Get into a study group with fellow students early in the semester. Exchange phone numbers and email addresses; whether you think you will or not.

- If you find yourself getting frustrated or worried, come talk to me or a counselor right away!!!! Students who take advantage of office hours usually wind up doing well in the course, but I can’t help you unless you come discuss your concerns with me! At some point in the future you may find you need an instructor recommendation for a scholarship, college application letter, etc., and instructor contact during the semester gives me a chance to get to know you as a person.

Attendance Policy: (1)

- Attendance is a requirement of Harold Washington College. “Students are required to attend class. Non-failure to attend class may result in being a withdrawal from class or failing the course… Faculty may consider excessive absenteeism or tardiness in the evaluation”.

- You must attend class every day in order to be success in this course. It is also important for you to be on time. Attendance will be taken at least once each meeting. It is also important for you to be on time and not leave early. (Therefore schedule personal appointments well outside of class-time with sufficient time for travel.) There is no excuse for consistently being late, Change your schedule so you arrive on time for every class session.

- Report all absences by notifying the Instructor and/or Department Secretary by email, voicemail, or in writing, prior to the class.

- In the event that you must miss class, it is your responsibility to find out what you have missed, not the instructor. Keep a list of phone numbers of other class-members that you may call and get the daily assignment. It is your responsibility to officially withdraw from the course. A student with excessive absences may be dropped from the course.

- If due to an emergency your instructor is twenty minutes late and no one has notified you otherwise, students are excused. HOWEVER, remain in class until this time; and send a student to notify the Dept. Make sure to sign in prior to leaving. Then you may leave with no penalty for absence for that class meeting, as long as you did sign-in!

- If due to an emergency you are not present in class and wish this to be an excused absence, you must present documentation the 1st day that you return to class, no exceptions.

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(1) "Emergency" cases will be discussed on a case-by-case basis.
(2) No tape recorders, mobile beepers, or telephones are permitted in class. You may be asked to leave class if a phone does go off AND you will have points deducted!! So turn your cell phones OFF. Cell phones may also be confiscated & given to the Vice-President.
(3) No student telephone calls are permitted in class.
Grading Information:

Any questions? Ask first, not when they are due!

Grade Scale*:
90%-100% : A
80%-89% : B
70%-79% : C
0% - 69% → Retake Course.

This is a breakdown of what will be assigned:
Chapter-Exams, Homework, Writing Assignments & Textbook work, a Midterm Portfolio & Final Portfolio, Class-work, Attendance, Possible Daily-Quizzes, and an optional Final Examination.

- Pencils only on homework, quizzes and exams, unless specifically told otherwise.
- Attendance and Homework are mandatory and will be used to decide final grades in borderline cases. Poor attendance may result in a lower grade, at the discretion of the instructor, without regard to other performance. (This usually entails over 8 hours missed.) Each tardy and/or leaving early from class will count as ½ day absence.

- Be NEAT... If I can’t read it, I won’t grade it. Show ALL WORK in pencil.
- You need to be able to show how you reached your solutions for credit.

- Reading and writing is an integral part of the elementary curriculum today. Students are required to justify and explain their solutions and how the solution was reached using everyday English. ...Therefore, not only will YOU be required to represent the math symbolically (using proper mathematical notation). But sometimes you will also be required to write and explain in English; (using words, without symbolism, and without mathematical notation.) [i.e. write the dialog that you would be spoken, if you were on the phone with a friend explaining how to solve the problem.]

Assignments:

- Turn assignment on time and neatly done... Late assignments are not counted for credit.
- Please note that ALL HOMEWORK ASSIGNMENTS must have your name, class and class section written in the upper right hand corner of your paper. Failure to do so will result in you not receiving credit for the completed assignment.
- Properly Label each assignment. For text work, make sure you label every page.
- All assignments must include:

  | At top Left: | At top Right: |
  | Title of the assignment, the section #, and page # | Your name, Class & Class Section due date of assignment |

Portfolios:
Portfolios(2): 20% of grade

- You will have two portfolios due. Specific dates will be given later, but expect them during Midterm Week and Finals Week. These will need to be typed and include a cover-page. (Midterm Portfolio 10% of your grade; Final Portfolio 10% of your grade.)

Grading Information: continues on next page.
### Homework:
**Homework:** 20% of grade

- **Writing Assignments & Textbook assignments:** (20% of your grade)
  - **Textbook assignments** must be: ■ in pencil, ■ neatly done and ■ well organized, and ■ on “Clean-Edge” binder paper only, for all textbook assignments.... ■ If they are NOT, then they will be returned un-graded and considered Late. ■
  - **Answers by themselves, do not count as completed problems!**
  - **Make sure you listen in class, to determine what work needs to be shown!**
    - **Write down the directions**, for each group of problems.
    - **You must copy the original problem.** (Summarize WORD problems!),
    - **Show all your work, as stated in class; and**
    - **Express the final answer along with proper units:** in a clear, precise manner and/or a complete sentence, whichever is appropriate.
    - **Write your final answer in an obvious place, like at the end of the problem, or next to the problem. Then Highlight or Circle your final answer. Not the problem, Not the work, just the answer!**
  - **All book assignments will be:** ■ Assigned daily--usually all sectional problems. ■ Students are responsible for the completion of all assigned problems. ■ Problems will be collected daily. ■ **due at the end of the scheduled class time, unless stated otherwise... And placed in a filed in a folder, for use in your portfolios.**

### Class-work:
**In-Class Work:** 10% of grade

- **You should read ahead, so you know what to expect during class-time... The more informed you are coming into the classroom; the better the lesson, the questions, student input, and the learning!!!**
- **Student input is encouraged throughout all classroom presentations and problem solving, with courtesy and respect given to instructor and other students! Students are invited to ask and answer questions during the lecture as well as to work collaboratively in-class, during appropriate times... Ideally, there is maximum student participation in each class period.**
- **When the class is working on a project, if you ate, or are not prepared for the lesson, your grade will be penalized appropriately.**

### Testing:
**Exams:** 50% of grade

- **There will be four full period examinations. Your grade will be based on the average of all exams. (Exams will be 50% of your grade.)**
- **Expect daily quizzes: Do not show up late, or leave early, otherwise you could lose quiz points...**
- **There will be an optional comprehensive final, covering in class material. (So if your grade is not what you would like it to be, this is your last chance to show your instructor you do know the mathematics after-all.) Optional Final-Exam can affect your overall final grade by no more than one letter grade. (+/- 5%)**

### Extra Credit
(Max 5%)

- **Possible Extra Points Available:**
  - Extra Written Reports with a Class presentation of results.
  - Internet Projects available.
  - Online quizzes: to be emailed to instructor once completed & graded.
Textbook Contents:

Note: Each chapter concludes with a Chapter Summary, Chapter Review Exercises, and a Chapter Test. Chapters 2-11 include Cumulative Review Exercises.

1. Problem Solving
   1.1. Seeing and Extending Patterns with Pattern Blocks
   1.2. Geometric Number Patterns with Color Tile
   1.3. Solving Story Problems with Algebra Pieces

2. Sets, Functions, and Reasoning
   2.1. Sorting and Classifying with Attribute Pieces
   2.2. Graphing Spirolaterals
   2.3. Logic Problems for Cooperative Learning Groups

3. Whole Numbers
   3.1. Models for Numeration with Multibase Pieces
   3.2. Adding and Subtracting with Multibase Pieces
   3.3. Multiplying with Base-Ten Pieces
   3.4. Dividing with Base-Ten Pieces

4. Number Theory
   4.1. Models for Even Numbers, Odd Numbers, Factors, and Primes
   4.2. Models for Greatest Common Factor and Least Common Multiple

5. Integers and Fractions
   5.1. Black and Red Tile Model for Integers
   5.2. Fraction Bar Model for Equality and Inequality
   5.3. Computing with Fraction Bars

6. Decimals: Rational and Irrational
   6.1. Decimal Squares Model
   6.2. Operations with Decimal Squares
   6.3. A Model for Introducing Percent
   6.4. Irrational Numbers on the Geoboard

7. Statistics
   7.1. Scatter Plots: Looking for Relationships
   7.2. Analyzing Data, Sampling, and Simulation
   7.3. Statistical Distributions: Observations and Applications

8. Probability
   8.1. Probability Experiments
   8.2. Multistage Probability Experiments

9. Geometric Figures
   9.1. Figures on Rectangular and Circular Geoboards
   9.2. Regular and Semiregular Tessellations
   9.3. Models for Regular and Semiregular Polyhedra
   9.4. Creating Symmetric Figures: Pattern Blocks and Paper Folding

10. Measurement
    10.1. Measuring with Metric Units
    10.2. Areas on Geoboards
    10.3. Models for Volume and Surface Area

11. Motions in Geometry
    11.1. Locating Sets of Points in the Plane
    11.2. Drawing Escher-Type Tessellations
    11.3. Devices for Indirect Measurement

12. Answers to Puzzlers

13. Answers to Selected Activities