MATH 100: **Survey of Mathematics**  
3 Credits (CRN 60311)  
Online

INSTRUCTOR: Matthew Radio  
OFFICE: Mana’opono 110A  
OFFICE HOURS (times students may drop in for help): Tues & Thurs 9:00 – 10:00am  
TELEPHONE: (808) 236-9276  
EMAIL: mradio@hawaii.edu  
EFFECTIVE DATE: Spring/2019

**WINDWARD COMMUNITY COLLEGE MISSION STATEMENT**

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai‘i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide the Koʻolau region of Oʻahu and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

**CATALOG DESCRIPTION**

An introduction to quantitative and logical reasoning for the non-science/non-mathematics major. The question, “What is mathematics?” is explored, while focusing on mathematical systems or models, cultivating an appreciation for mathematics as an aesthetic art, and developing skills in problem solving and analysis. (3 hours lecture, online)

Pre-Requisite(s): C or better in MATH 25, 26, 28, 29, 75X or higher or equivalent, co-requisite enrollment in Math 78, satisfactory math placement test score, or consent of instructor.

**STUDENT LEARNING OUTCOMES**

Upon completion of the course, the student will be able to:

- Utilize basic properties and/or operations related to the topics covered in the course
- Employ symbolic/mathematical techniques to solve applied problems
- Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form

**Note:** All SLOs assessments are embedded in class activities, homework, quizzes, or Exams.
COURSE CONTENT

**Concepts or Topics (What students should know or understand)**

- Algebra: Graphs, Functions, and Linear Systems
- Personal Finance
- Logic
- Counting Methods and Probability Theory
- Statistics

**Skills or Competencies (What students should be able to do in order to complete the student learning outcomes)**

- a positive, inquiring attitude towards learning mathematics;
- setting aside adequate time for studying and working of problems;
- reading the text carefully and making use of other learning materials whenever necessary;
- seeking assistance from the instructor and the Math Lab personnel whenever necessary;
- completing assignments by the designated date;
- regular class attendance, participation and maintaining accurate class notes.

FOUNDATIONS SYMBOLIC REASONING HALLMARKS

Math 100 fulfills 3 credits of the General Education requirements (Foundations Symbolic Reasoning) for both an A.A. degree at WCC and a Bachelor’s degree at 4 year UH institutions. Consequently, it meets the following hallmarks of the Symbolic Reasoning requirement:

1. Students will be exposed to the beauty, power, clarity and precision of formal systems.
2. Instructors will help students understand the concept of proof as a chain of inferences.
3. Instructors will teach students how to apply formal rules or algorithms.
4. Students will be required to use appropriate symbolic techniques in the context of problem solving, and in the presentation and critical evaluation of evidence.
5. The course will include computational and/or quantitative skills.
6. Instructors will build a bridge from theory to practice and show students how to traverse this bridge.

FOUNDATIONS QUANTITATIVE REASONING HALLMARKS

Math 100 also fulfills 3 credits of the General Education requirements (Foundations Quantitative Reasoning) for both an A.A. degree at WCC and a Bachelor’s degree at 4 year UH institutions. Consequently, it meets the following hallmarks of the Quantitative Reasoning requirement:

Windward Community College is an equal opportunity, affirmative action institution.
1. Provide students with theoretical justifications for, and limitations of, mathematical or statistical methods, and the formulas, tools, or approaches used in the course.

2. Include application of abstract or theoretical ideas and information to the solution of practical quantitative reasoning problems arising in pure and applied research in specific disciplines, professional settings, and/or daily and civic life.

3. Provide opportunities for practice and feedback that are designed to help students evaluate and improve quantitative reasoning skills by including a course component at least once per week with a maximum 30:1 student-to-teacher ratio.

4. Be designed so that students will be able to
   a. Identify and convert relevant quantitative information into various forms such as equations, graphs, diagrams, tables, and/or words;
   b. Select appropriate techniques or formulas, and articulate and evaluate assumptions of the selected approaches;
   c. Apply mathematical tools and perform calculations (including correct manipulation of formulas);
   d. Make judgments, create logical arguments, and/or draw appropriate conclusions based on the quantitative analysis of data, the assumptions made, the limitations of the analysis, and/or the reasonableness of results; and
   e. Effectively communicate those results in a variety of appropriate formats.
COURSE TASKS

This course focuses on problem solving, logical reasoning, and analytical thinking. The student will apply information to textbook problem sets. The goal is not simply to get the correct answer but to build the ability to explain how to obtain the solution and why the solution is correct.

The student will demonstrate competency in the objectives by participating in class activities, by completing and submitting homework assignments, by taking midterm exams, and by taking a cumulative final exam. Class activities are to be submitted in the appropriate forum in Laulima. Online homework will be completed on the MyMathLab website. The midterm exams and the final exam are to be proctored in a testing center.

- **Weekly Activities.** You will be expected to participate in several activities each week. **There will be no make-up for missed activities.** At the end of the semester, your “Activities” grade will equal the percentage of activities that you completed on time in a satisfactory manner. Weekly activities may include, but are not limited to:
  - Short report
  - Worksheet
  - Teaching
  - Presentation
  - Group discussion

- **Homework.** Homework will be assigned weekly in MyMathLab. The assigned sections will be due Sundays at 11:59 pm, Hawaii time. **No late homework will be accepted.**

- **Midterm Exams.** There will be three midterm exams each covering specific chapters of the textbook (i.e., these exams will not be cumulative). Although announcements will be made in advance, it is your responsibility to check Tentative Schedule below for midterm exam dates. All midterm exams will be proctored at a local testing center of your choice and must be taken during the days specified. (See [http://www.hawaii.edu/dl/testcenters](http://www.hawaii.edu/dl/testcenters).)

- **Final Exam.** There will be one cumulative exam at the end of the course. See Tentative Schedule below for the final exam date. Final Exam will be proctored at a local testing center of your choice and must be taken during the days specified. ([http://www.hawaii.edu/dl/testcenters](http://www.hawaii.edu/dl/testcenters).) **If you do not take the final exam, you will automatically receive a grade of F for this course.**

- **Make-up.** Make-up opportunity for a midterm exam or final exam will be possible only upon a timely presentation of a serious and justified explanation of the student’s absence from the class test. The instructor has the right to request documentation of the student’s absence from the class test and to determine if the absence from the class test is justified. A make-up test must be taken by the deadline set by the instructor.

**Notes:**

- If you are unable to take any exam on the designated day, you must discuss your situation with me as soon as possible before the exam day. It may be possible for you to take the exam earlier than the specified day/time.
o If you unexpectedly must be absent on an exam day, notify me before the end of the day via email. If the reason is justified, then a make-up exam will be scheduled.

o For each student, no more than one make-up exam may be granted.

o There are no re-tests in this course.

- **Evaluation:**

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<tbody>
<tr>
<td>Activities</td>
<td>15%</td>
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<tr>
<td>Homework</td>
<td>20%</td>
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<tr>
<td>Midterm Exams (Proctored)</td>
<td>45%</td>
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<tr>
<td>Comprehensive Final Exam (Proctored)</td>
<td>20%</td>
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- **Course Grade:**

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Definition</th>
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<tbody>
<tr>
<td>A</td>
<td>90%-100% of the cumulative points possible</td>
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<tr>
<td>B</td>
<td>80%-89% of the cumulative points possible</td>
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<tr>
<td>C</td>
<td>70%-79% of the cumulative points possible</td>
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<tr>
<td>D</td>
<td>60%-69% of the cumulative points possible</td>
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<tr>
<td>F</td>
<td>Less than 60% of the cumulative points possible</td>
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<tr>
<td>CR</td>
<td>70% or above of the cumulative points possible</td>
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<td>NC</td>
<td>Less than 70% of the cumulative points possible</td>
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<tr>
<td>W</td>
<td>Official Withdrawal</td>
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<tr>
<td>I</td>
<td>See below</td>
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o The N grade will not be given in this course.

o CR/NC grades require written instructor consent. Students must apply for CR/NC grading option at the Admissions Office by the posted deadline. If a student does not apply for CR/NC grading option at the Admissions Office by the required deadline and if s/he does not withdraw, a letter grade (A, B, C, D, or F) will be assigned for the course.

o The W grade is given only when the student officially withdraws from the course by the posted deadline.

o *The I grade is a temporary grade given at the instructor’s option when a student has failed to complete a small part of a course because of circumstances beyond his or her control. A student may qualify for the I grade if (a) they are unable to take the final exam and (b) taking the final exam could possibly raise their course grade. The I grade is given only after a student’s request and the instructor’s approval.*
LEARNING RESOURCES

- Option 1: Buy the printed textbook from the bookstore with an Access Code for MyMathLab included.
- Option 2: Buy access to MyMathLab directly online and get the e-book included.

MyMathLab Course ID: radio44078

Basic 5-function calculator (including square root key) or a scientific (non-graphing) calculator

MATH LAB: La‘akea 220 – free drop-in tutorial assistance
Brainfuse Online Tutorial Assistance: [https://windward.hawaii.edu/brainfuse/](https://windward.hawaii.edu/brainfuse/)
OLA (UH online tutoring program): [https://manoa.hawaii.edu/ola/](https://manoa.hawaii.edu/ola/)
Khan Academy Videos: [https://www.khanacademy.org/math](https://www.khanacademy.org/math)

ADDITIONAL INFORMATION

- **Grading on Homework, Activities, Midterm Exams, and Final Exam.** To receive full marks for problems done on any graded course work, you must show mathematical steps neatly and completely as well as provide clear written explanations, in full sentences, when it is asked for. Partial credit may be awarded.

- **Student Expectations.** You need to work on the course at least 3 times each week and spend about 12 hours per week on the course. Homework and activities must be turned in on time and exams taken during the days specified. The course runs on a Monday-Sunday calendar, with the exception of the last week of the course (the course will end on a Friday). Weekly assignments will be due on Sundays at 11:59pm, Hawaii time, and new work will be posted on Mondays at 12:00am.

- **Practice.** For each chapter, as you read through each section, it is recommended that you write down the words, phrases, or math symbols and their meanings, formulas, and properties/rules that are important for each activity. It is essential for you to know these. Keep this “journal” to study for exams.

  After you read and study each textbook section, try the odd-numbered problems in Exercise Set at the end of the section. The answers to these selected problems are available in the back of the textbook. Then do as many other problems in the same section as you feel is necessary to help you learn and understand the material and become comfortable with the concepts and/or properties. I encourage you to reach out to me for additional assistance.

- **Laulima.** All instructions, including discussions and class activities, will be posted in Laulima each week. The syllabus, course calendar, homework schedule, grades, etc. are all viewable through Laulima. Check Laulima every day to stay up to date. I’ll be logging in at least once a day Monday through Friday.

- **Calculators.** A basic 5-function calculator (including square root key) or a scientific (non-
A graphing calculator is required for Chapter 11 and Chapter 12. A graphing calculator (such as TI-83+) will not be allowed in this course. Cell phone calculators are not allowed on tests.

- **Communication.** It is your responsibility to stay in communication with the instructor. The instructor may need to contact you throughout the semester and will do so via email and/or phone. It is your responsibility to check your UH email on a regular basis.

- **Electronic Devices.** The usage of electronic devices, including two-way communications devices such as cell phones, is prohibited during any proctored tests. (Cell phones must be silenced and put away when entering the testing room.)

- **MyMathLab (MML).** You are strongly recommended to utilize the online resources provided by Pearson ([https://www.pearsonmylabandmastering.com/northamerica/](https://www.pearsonmylabandmastering.com/northamerica/)). To register for a MML account, you must have an access code (accompanying the printed textbook or purchase solely) and a course ID, radio44078.

- **Testing Center.** The Windward Community College Testing Center is located in Hale La'akea 228. (Visit [https://windward.hawaii.edu/kapiko/testing/](https://windward.hawaii.edu/kapiko/testing/) for more information.) The website [http://www.hawaii.edu/dl/testcenters](http://www.hawaii.edu/dl/testcenters) provides information on all available testing sites in Hawai'i. Please notify me the location and contact information of the proctor of your testing center by the end of the first week.

- **MySuccess.** At Windward community college, we want every student to be successful. MySuccess is a system wide effort that seeks to support students early in the semester when they first experience difficulty in class. If I feel that you are having difficulty in this course within the first few weeks of the semester (e.g. missing class, missing assignments, or low test scores) and that you would really benefit from being connected to resources outside of the classroom, I may refer you to your assigned counselor. Once referred, MySuccess will:
  
  - Call you and send an email to your Hawaii.edu account to let you know about my referral; and
  - Have the MySuccess team follow up with you by phone or email to find out what kinds of help you might need and connect you with the necessary resources to help you devise a strategy for success.

If I refer you to your assigned counselor, please know that I am doing so in an effort to connect you with all of the help you may need to do well this course. Your success in this course is important to me.

### DISABILITIES ACCOMMODATIONS

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale ʻĀkoakoa 213 for more information.
**TITLE IX**

Title IX prohibits discrimination on the basis of sex in education programs and activities that receive federal financial assistance. Specifically, Title IX prohibits sex discrimination; sexual harassment and gender-based harassment, including harassment based on actual or perceived sex, gender, sexual orientation, gender identity, or gender expression; sexual assault; sexual exploitation; domestic violence; dating violence; and stalking. For more information regarding your rights under Title IX, please visit: [https://windward.hawaii.edu/Title_IX/](https://windward.hawaii.edu/Title_IX/).

Windward Community College is committed to the pursuit of equal education. If you or someone you know has experienced sex discrimination or gender-based violence, WCC has resources to support you. To speak with someone confidentially, contact the Mental Health & Wellness Office at 808-235-7393 or Kaahu Alo, Designated Confidential Advocate for Students, at 808-235-7354 or [kaahualo@hawaii.edu](mailto:kaahualo@hawaii.edu). To make a formal report, contact the Title IX Coordinator, Karla K. Silva-Park, at 808-235-7468 or [karlas@hawaii.edu](mailto:karlas@hawaii.edu).

**ACADEMIC INTEGRITY**

Work submitted by a student must be the student’s own work. The work of others should be explicitly marked, such as through use of quotes or summarizing with reference to the original author.

Students can upload papers to [http://www.TurnItIn.com](http://www.TurnItIn.com) to have papers checked for authenticity, highlighting where the paper potentially fails to appropriately reference sources.

In this class, students who commit academic dishonesty, cheating or plagiarism will have the following consequence(s):

Students will receive a failing grade for plagiarized assignments.

All cases of academic dishonesty are referred to the Vice Chancellor for Student Affairs.

**ALTERNATE CONTACT INFORMATION**

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

Location: Alakai 121  
Phone: 808-235-7422  
Email: wccaa@hawaii.edu

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<tr>
<th>Important College Deadlines</th>
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<tr>
<td>Late Registration/Fee begins, Spring</td>
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<td>In-Person Add/Drop Fee Begins, Spring</td>
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<tr>
<td>Last Day to Add/Late Register, Spring</td>
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<td>Last Day for 100% Refund, Spring</td>
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<tr>
<td>Dr. Martin Luther King Jr. Day</td>
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<td>Last Day for 50% Refund, Spring</td>
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<td>Last Day to Withdraw without a &quot;W&quot; Grade, Spring</td>
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<td>Presidents’ Day</td>
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<tr>
<td>Excellence in Education (first Friday in March)</td>
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<td>Spring Recess</td>
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<tr>
<td>Last Day to Withdraw with a &quot;W&quot; Grade, Spring</td>
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<tr>
<td>Last Day to Establish credit/no-credit and audit options, Spring</td>
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<tr>
<td>Last Day to Make up an &quot;I Grade&quot; from Previous Fall</td>
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<td>Final Exam Period</td>
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## Course Schedule (subject to change)

The course week begins Monday at 12:00am and ends Sunday at 11:59pm.

All activities and homework sets are due on Sunday at 11:59pm of the week assigned.

<table>
<thead>
<tr>
<th>Week Of</th>
<th>Activities and Discussions (HST=Hawaii Standard Time; MML=MyMathLab; HW=Homework)</th>
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</table>
| JAN 7   | Orientation/Questionnaire  
Provide the location and contact information of your testing center. (See the related forum topic in Week 1 in Laulima.)  
7.1, 7.2; HW (7.1) Due on Sunday |
| JAN 14  | 7.2, 7.6; HW (7.2, 7.6) Due on Sunday |
| JAN 21  | 3.1~3.4; HW (3.1~3.4) Due on Sunday |
| JAN 28  | 3.5, 3.6; HW (3.5, 3.6) Due on Sunday |
| FEB 4   | **Exam 1 (Proctored; must be taken on 2/6-2/9)**  
3.7; HW (3.7) Due on Sunday |
| FEB 11  | 3.8, 8.5; HW (3.8, 8.5) Due on Sunday |
| FEB 18  | 8.6, 8.7; HW (8.6, 8.7) Due on Sunday |
| FEB 25  | 8.8; HW (8.8) Due on Sunday |
| MAR 4   | **Exam 2 (Proctored; must be taken on 3/6-3/9)**  
11.1, 11.2; HW (11.1, 11.2) Due on Sunday |
| MAR 11  | 11.3, 11.4; HW (11.3, 11.4) Due on Sunday |
| MAR 18  | **Spring Break: No Classes** |
| MAR 25  | 11.5, 11.6; HW (11.5, 11.6) Due on Sunday |
| APR 1   | 11.7; HW (11.7) Due on Sunday |
| APR 8   | **Exam 3 (Proctored; must be taken on 4/10-4/13)**  
12.1, 12.2; HW (12.1, 12.2) Due on Sunday |
| APR 15  | 12.3; HW (12.3) Due on Sunday |
| APR 22  | 12.4, 12.5; HW (12.4, 12.5) Due on Sunday |
| APR 29  | Review for Final; **Last day of instruction (5/2)** |
| MAY 6   | **Proctored Final Exam (Must be taken on 5/6, 5/7, 5/8, or 5/9)** |