Syllabus for *MATH-102-E1064 (041064) Pathway to Statistics* – Eureka Campus		
Semester & Year	Spring 2017	
Course ID and Section #	MATH-102-E1064 (041064) Pathway to Statistics	
Instructor's Name	Tami Matsumoto	
Day/Time	2 days per week: TTh 1:15pm - 3:45pm and 4:05pm - 5:30pm	
Location	SC Room SC202	
Number of Credits/Units	6 units	
Contact Information	*Office location*	SC 205-B, upstairs in Science Bldg
	Office hours	Mon 10-11, Wed 2-3, Fri 9-10. Also by chance and by appointment.
	Phone number	707-476-4543
	Email address	tami-matsumoto@redwoods.edu Include "**Math 102**" as ***part of*** the email Subject line
	Social Media	https://twitter.com/tamimathcr https://www.facebook.com/TamiMathCR
Required Book:	*Title & Edition*	***Outliers: The Story of Success***
	Author	Malcolm Gladwell
	ISBN	0316017930 (10); 978-0316017930 (13)

Course Description

A course designed to be a nontraditional, accelerated pathway to transfer-level statistics. Topics in algebra, data analysis and critical thinking skills relevant for success in statistics are the focus. The learning experience for this course emphasizes active learning via collaborative work. This course is designed for students who plan to major in fields such as biology, social sciences, nursing, art, and English, and not for students pursuing degrees in math, enginering, computer science, business or economics.

Note: Math 102 may be taken for a Letter Grade or you can file for the Pass/NoPass option (before Feb. 10).

Student Learning Outcomes

1. Formulate questions that can be addressed with data, then organize, display, and analyze relevant data to answer these questions and communicate results.
2. Use the properties of algebra to simplify expressions, solve equations and answer questions in context.
3. Construct, use, and interpret mathematical models, specifically linear and exponential functions, to represent relationships in quantitative data.

Special Accommodations

College of the Redwoods complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request at least one week before the first test so that necessary arrangements can be made. No last-minute arrangements or post-test adjustments will be made. If you have a disability or believe you might benefit from disability related services and may need accommodations, please see me or contact Disabled Students Programs and Services. Students may make requests for alternative media by contacting DSPS at 707-476-4280.

Academic Support

Academic support is available at Counseling and Advising and includes academic advising and educational planning, Academic Support Center for tutoring and proctored tests, and Extended Opportunity Programs & Services, for eligible students, with advising, assistance, tutoring, and more.

Academic Honesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. In cases involving academic dishonesty, determination of the grade and of the student's status in the course is left primarily to the discretion of the faculty member. In such cases, where the instructor determines that a student has demonstrated academic dishonesty, the student may receive a failing grade for the assignment and/or exam and may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct (AP 5500) is available on the College of the Redwoods website at: http://www.redwoods.edu/board/Board-Policies/Chapter-5-Student-Services, and scroll to AP 5500. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the college catalog and on the College of the Redwoods website.

Disruptive Classroom Behavior

Student behavior or speech that disrupts the instructional setting will not be tolerated. Disruptive conduct may include, but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process a disruptive student may be temporarily removed from class. In addition, he or she may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct (AP 5500) is available on the College of the Redwoods website at: http://www.redwoods.edu/board/Board-Policies/Chapter-5-Student-Services and scroll to AP 5500. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the college catalog and on the College of the Redwoods website.

Emergency Procedures for the Eureka campus:

Please review the campus evacuation sites, including the closest site to this classroom (posted by the exit of each room). The Eureka **campus emergency map** is available at: (http://www.redwoods.edu/aboutcr/Eureka-Map; choose the evacuation map option). For more information on Public Safety, go to http://www.redwoods.edu/publicsafety. In an emergency that requires an evacuation of the building:

- Be aware of all marked exits from your area and building.
- Once outside, move to the nearest evacuation point outside your building:
- Keep streets and walkways clear for emergency vehicles and personnel.
- Do not leave campus, unless it has been deemed safe by the Incident Commander or campus authorities. (CR's lower parking lot and Tompkins Hill Rd are within the Tsunami Zone.)

RAVE – College of the Redwoods has implemented an emergency alert system. In the event of an emergency on campus you can receive an alert through your personal email and/or phones at your home, office, and cell. Registration is necessary in order to receive emergency alerts. Please go

to https://www.GetRave.com/login/Redwoods and use the "Register" button on the top right portion of the registration page to create an account. During the registration process you can elect to add additional information, such as office phone, home phone, cell phone, and personal email. Please use your CR email address as your primary Registration Email. Your CR email address ends with "redwoods.edu." Please contact Public Safety at 707-476-4112 or security@redwoods.edu if you have any questions.

College of the Redwoods is committed to equal opportunity in employment, admission to the college, and in the conduct of all of its programs and activities.

Tip Line:
Anyone wishing to make an anonymous report of a crime may use the tip line at 707.476.4555
Or by emailing CRTip@redwoods.edu. See also: http://www.redwoods.edu/Safety/report.asp

Students get Microsoft Office 365 FREE
All CR Students can get OFFICE 365 for *free* -- for PC, Mac, Smartphone, Tablet -- using the @mycr.redwoods.edu email address.

- Go to https://portal.office.com/start?sku=78e66a63-337a-4a9a-8959-41c6654dfb56 (If you get an Error message using the hyperlink, copy and paste the url directly into your browser.)
- Enter "mycr" student email account (e.g., jdoe555@mycr.redwoods.edu)
- Go into student email account; click on the verification link in the Microsoft email.
- The link will take you back to the website and you can download the software at that time, OR access the account at a later time via: https://login.microsoftonline.com

Mathematica:
Mathematica presentations will be given by Professor David Arnold each Wednesday, 4:40-5:30 pm, in SC 214. All faculty, staff, and students are welcome and are entitled to a free version of Mathematica for personal use. See: http://www.redwoods.edu/math/mathematica

Student Services (a partial list of what's available for Eureka students)

- Health Center: http://www.redwoods.edu/eureka/studenthealth/ PE Building 114. 707-476-4149. Spring Semester hours: MTThF 1-5pm & Wed 8:30-4:30 (except 2-5pm on Jan 18; and 1-5pm on Jan 25 & Feb1). Closed Holidays & Breaks. Flu shots available (free for students).
- Security/Public Safety: http://www.redwoods.edu/safety/
  Emergency Line: 476-4111 (Non-emergencies 476-4112)
- Child Development Center: http://www.redwoods.edu/Eureka/CDC/
  Information: 476-4337 or wendy-jones@redwoods.edu
- ASC Tutoring (for all CR students; need not be enrolled in Math Lab): http://www.redwoods.edu/eureka/asc/tutoring.asp
- Testing Center in ASC – for make-up tests, and when certain accommodations cannot be met in the regular classroom: http://www.redwoods.edu/eureka/asc/
- Scholarships – Spring deadline is ***4pm*** **Friday Feb. 3** http://www.redwoods.edu/financial-aid/Scholarships
- Math Lab – students must be registered in a Math Lab course to use the Math Lab http://www.redwoods.edu/Departments/Mathematics/MathLab.asp

- DSPS http://www.redwoods.edu/District/dsps/
- EOPS/Care http://www.redwoods.edu/eops/
- TRiO http://www.redwoods.edu/trio/eureka
- Honors Program http://www.redwoods.edu/Departments/Honors/
- Veterans Resource Center http://www.redwoods.edu/vets/

See more at http://www.redwoods.edu/services/

Classes for Academic Support

- Math Lab classes: Math 380L or Math 252 (for students in Math 102)
- LIGHT Center classes open to all students: GUID 143, 145, 146, 147, 148, 205, 215.
  For information: 476-4290 (Eureka campus)
  NOTE: GUID classes can be taken by any students (even if not DSPS)
- ESL classes such as ESL 211 support academic students. *You can show up to sign up!*

ASCR: Associated Students of College of the Redwoods: http://www.redwoods.edu/ascr/
Some Student Clubs are listed here http://www.redwoods.edu/ascr/organizations.asp

Mathematics Placement Statement

We want every student to be in the right mathematics class.
Is Math 102 the appropriate mathematics class for you?

What is Math 102?
Math 102 is a special course designed to accelerate students' progress through the mathematics sequence and into Math 15 "Elementary Statistics," which is a transfer-level course for college credit. After successful completion of Math 102, students can take Math 15 "Elementary Statistics" and will not need any other math class at CR. Math 102 is based on research from the California Acceleration Project.

Math 102 is not for everyone.

- *Not appropriate for all disciplines.*
  Any student interested in pursuing a degree in mathematics, science, or engineering should not take Math 102. If your degree path requires more mathematics beyond algebra (more than statistics), then you should talk to your advisor to determine the best math course for you. Your Math 102 instructor can assist you in switching into a different math class.
  See Math Pathways Flyer
  http://www.redwoods.edu/Portals/53/FinalMathPathways_030916-1.pdf?ver=2016-04-07-161917-917
- *Not appropriate if your math background already includes intermediate algebra (or "Algebra II").*
  You should definitely consult with your instructor to move to a higher-level mathematics course (such as Math 15 Statistics), if one of the following criteria holds:
  - You passed one or more of the following courses in high school: Precalculus, Math Analysis, Trigonometry, or IB Math HL.
  - You earned a score of 3 or more on the AP Statistics exam.
  - You earned a score of 4 or more on the IB Math SL or IB Math Studies SL exam.

  Also, if you scored 34 or more on the Accuplacer College Level exam, you should see an advisor immediately to find out if you can move up to a higher-level mathematics course.

  If your math experience includes intermediate algebra, but you are just "rusty" then a couple other options are:

- take Math 303 (a 1-unit Intermediate Algebra Review) and then re-test to place into a transfer-level mathematics class such as Math 15 Statistics.
- Or, review intermediate algebra independently and re-test. Review materials are available at http://mathrev.redwoods.edu/mathjam/?s=public&r=303-Intermediate-Algebra-Review

Please talk with your instructor and, for graphic information see http://msenux2.redwoods.edu/mathdept/docs/student/Advising_Chart_Math120.pdf.

- *Not appropriate for all individuals.*
  Math 102 is a non-traditional class that will incorporate a lot of group work and discussion. If you anticipate that you will not be able to attend every class session, arriving by 1:15 and staying to 5:30 every Tuesday and Thursday from now through the entire semester, then you should not take this class. Or if you anticipate that you will not be able to work collegially and collaboratively with your classmates, respecting everyone's ideas, and treating everyone with kindness and consideration throughout the whole semester, then you should not take this class.

  Furthermore, if you would rather sit quietly in a math class, listen to lecture, take notes, go home, do a bunch of math problems independently, check the answers in the back of the book, and come back and do that all over again, then this class is not for you.

Who should take Math 102?
Students who have not yet passed intermediate algebra and who want to transfer to a CSU or UC to major in humanities or social sciences can benefit from Math 102. (At CR, the Intermediate Algebra courses are Math 120 and Math 194). Students wishing to take Math 15 Statistics for transfer, will typically not be required to take any other math course for a B.A. degree (in humanities or social sciences). So those students who are interested in making the commitment to work together through this nontraditional group-intensive course for the whole semester, and plan to take Math 15 Elementary Statistics at College of the Redwoods afterwards, should take Math 102.

Math 102 is an "Accelerated" Pathway
Math 102 aims to remove what has become a major obstacle for many students: getting stuck in the standard course progression from elementary algebra to intermediate algebra to a college-level course, such as statistics. Data: In Fall 2010 in California's 112 community colleges, only 55% of students taking a math course for an associate degree or to transfer passed their math class (EdSource http://edsource.org/2012/new-statistics-course-accelerates-college-students-path-to-success/6495).

How is Math 102 different?
In intermediate algebra, students often get bogged down in formulas and calculations that seem to have little relevance to their lives. Math 102 includes *some* intermediate algebra, but leaves out parts that are not essential for students to succeed in college-level statistics. In many fields, statistics, rather than algebra, is sufficient (for students who are **not** majoring in science, engineering or mathematics).

The only objective of Math 102 is to prepare you to take Math 15 Elementary Statistics at CR. Math 102 does not transfer to any other institution. The combination of Math 102 and Math 15 is a 1-year sequence designed to help students complete math requirements faster; it takes two years (or more) for students to complete the Prealgebra-Elem. Algebra – Int. Algebra – Math 15 sequence.

Math 102 is not an algebra course and is not a statistics course, but rather, Math 102 focuses on some algebra and also pre-statistics concepts to help you succeed when you take Math 15 Elementary Statistics. Topics include algebra, data analysis and critical thinking skills that are relevant for success in statistics. Math 102 will emphasize active learning via collaborative group work.

Where did Math 102 come from?
For years, educators have been trying different strategies in efforts to help more students get through the math sequence required for an Associates Degree and/or transfer to a 4-year college or university.

Myra Snell, a mathematics teacher at Los Medanos College, realized that not all students really need all the mathematics that is taught in intermediate algebra. In 2009, she created an accelerated algebra "Path to Stats" course that focused on only the algebra skills needed to succeed in an elementary statistics course. Katie Hern, an English instructor at Chabot College, had similar ideas about accelerating students through the sequence of English classes.

In 2010 Myra Snell and Katie Hern founded the ***California Acceleration Project***. Armed with research from the Carnegie Foundation for the Advanced of Teaching and the Community College Research Center at Columbia University's Teachers College, they encouraged others to offer accelerated sequences in math and English. Since then, more English and mathematics faculty at more California Community Colleges have developed their own "accelerated" courses. Several CR faculty attended California Acceleration Project (CAP) conferences and training. CR Professors Todd Olsen, Mike Haley, Steve Jackson, and Erik Kramer went to CAP and subsequently developed Math 102 at CR. More recently, other CR faculty have also attended CAP Conferences, including Amber Buntin, Levi Gill, and Phil Zastrow.

Math 102 was first taught at CR in Fall 2015, and we are excited to see how Math 102 students do when they subsequently take Math 15 Elementary Statistics at CR.

Math 102 Pathway to Statistics

Information follows in these sections:

1. Spring 2017 Important Dates
2. Materials you will need
3. Course Content
4. Course Requirements
5. "EPIC" Program
6. Creating your own personal Math Reference Book
7. Grading information

---

1. Spring 2017 Important Dates

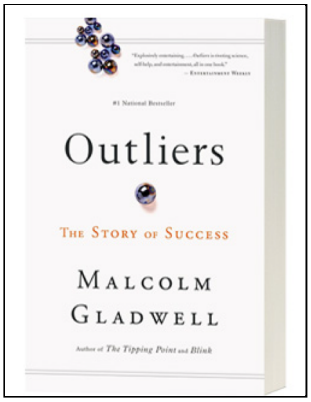
This Math 102 meets Tuesdays and Thursdays_ 1:15-3:45pm and 4:05-5:30 -- in room SC202 – at CR's Eureka campus., starting January 17, 2017, and runs 15 weeks, followed by Finals Week.

Important dates:

- Tuesday, January 17 – First day of class
- Friday, Jan. 27 – Last Day to drop without a "W" on your transcript and receive a refund
- Friday, Feb 3 – CR Spring Scholarship Deadline
- Friday, Feb 10 – Last Day to file for Pass/No Pass option
- Friday, Feb 17 – No classes (campus offices will be open)
- Monday, Feb. 20 – Campus Closed for ***Washington ("Presidents")*** Holiday
- Thursday, March 2 – Last Day to petition to graduate / receive certificate this semester
- Week of March 13-18 – Spring Break (No Classes)
- Friday, March 31 – Last Day for Student-Initiated Withdrawal (no refund, and get a "W")
- Saturday, April 29 – Humboldt Math Festival, at Adorni Center, Eureka, 12noon-4pm
- Thursday, May 4 – Last regular class session
- **Tuesday, May 9 – Final Exam, 3:15pm-5:15pm**

---

2. Materials you will need:



- **Required Text**: ***Outliers: The Story of Success***, by Malcolm Gladwell

- **Bound Notebook with Grid Paper**:
  Roaring Spring #77475 or Ampad #26-251 (about $2 - $6), for example. Make sure it is **bound** and has **graph paper** in it. You will use this throughout the course to build yourself a reference book (see the "Reference Book Information" handout also).

- **Calculator**:A ***Graphing*** Calculator (TI-83 or TI-84 recommended). On the Eureka campus, a limited number of rental calculators are available from the Math Lab in the ASC.

- Suggested Supplemental Book: ***Statistical Reasoning in Sports,*** by Josh Tabor & Chris Franklin

- **Time. Lots!!** In your own weekly schedule please make sure that you have blocked out at least 15 hours *(possibly as much as 20 hours)*, per week, to devote to this class.

- **Computer Access** for:
  - **Email:** I expect you to have regular access to a computer and expect to be able to contact you easily. The College uses your "mycr.redwoods.edu" email address to communicate with you so it is important that you receive those email messages; you can set it up to autoforward those emails to another email address if you prefer.
  - **"Canvas" for course materials**. We will have some course materials available using Canvas. (This is separate from your email but you need access to a computer for this also.)

- **Paper**: Homework Paper and scratch paper, lots of it! It is fine with me if you RE-USE paper.

Paper that's only been used on one side is still fine (in general) on the other side. You will also need some graph paper. Get it in a pad or a package of loose-leaf sheets (rather than stuck in a notebook), or print it from the web. Many people find it helpful to get graph paper with heavier lines on every fifth line to make counting easier.

- **Supplemental Handouts**. There will be lots of handouts some of which you may have to print from Canvas. It is your responsibility to make sure that you get a copy of all supplemental material, even if you miss class.

---

3. Course Content

Math 102 content will include:

- Numerical Reasoning
- Algebraic Reasoning
- Probability
- Basic Principles of Study Design
- Mathematical Models
- Graphing and Exploratory Data Analysis
- Use of Graphing Calculator for Statistics

---

4. Course Requirements (*subject to change with fair notice*)

Participation in Class Activities: Attendance and participation are essential to the learning process. In addition, everyone benefits from your input and participation, and most of the work we do will be in groups. A hugely important aspect of this course is the incorporation of active learning in class; this requires everyone's participation, particularly during in-class activities. Also, the best way to insure having a successful experience in any course is to come to every class meeting and keep up with the assignments. There will often be handouts during class to be turned in at the end of class. If you miss more than four class sessions, you may be dropped from the course.

I realize that sometimes things come up and getting to class is impossible. In those cases, just communicate with me as soon as you possibly can. This is especially important in this lecture-lab group activity-based course.

Note that ALL students remain responsible for ALL assignments given and those assignments are expected to be turned in ON TIME. If you miss a class, the assumption is that you will get the necessary information to complete the assignment by the due date and be prepared to continue in the normal flow of the course.

CAUTION: the material builds from one week to the next and so
IT IS VITALLY IMPORTANT THAT ALL STUDENTS ATTEND ALL CLASSES.

Homework Assignments: Assignments will be described in class and posted in Canvas. There will be two categories of assignments: "Basic" and "Advanced." To Pass this class with a "C" you do not need to do any "Advanced" assignments. Only those who want a grade higher than "C" need to do "Advanced" assignments.

Quizzes: There will be quizzes, some will be assigned for you to do in Canvas, and some will be in class (not always announced ahead). You should always bring a pencil with you to class each day to be ready for a quiz. Bring your reference book (which may be allowed for some quizzes).

Other assignments: There will be at least two major cooperative projects beyond the in-class group activities. Information will be given in class and posted in Canvas.

Reference Book: Each student is required to create his/her own personal Math Reference Book throughout the term. It should be made in a bound notebook. It should have a title page at the front, followed by a table of contents. The contents should include material learned in the course. For the most part, it is up to you to decide exactly what to include, though there will be a few items I will direct you to be sure to include. Each page should be one separate topic. Suggestion: as you make entries of your own, note the ***textbook*** page # to refer back to, if needed.

Final class official date and time: Thursday December 15, 1-3pm, during finals week.

HELP?! If you have questions, please get help! It is ***your*** responsibility to seek help if you need it. We will go over some questions in class, but we will not have enough time to answer all of everyone's questions.

DUE DATES and LATE WORK: Caveat on "due dates": While we are, by necessity, confined within a certain time framework, it is important to me that you understand the material – given that, if you have made progress on an assignment but are having trouble completing it by the due date, communicate with me to make appropriate arrangements.

---

5. "EPIC" Program (Supplemental Instruction)

This class has been lucky enough to be included in the EPIC supplemental instruction project!
"EPIC" is an acronym for Embedded Peer Instruction Cohort.

Sheng Yang is a higher-level CR mathematics student, and is the "EPIC Peer Leader" for our class. The Peer Leader will attend class with us to experience what we are going over in class, and will be available to assist us during class. The Peer Leader will serve as a math student role model and will also offer supplemental study sessions outside of class.

---

6. Creating Your Own Personal REFERENCE BOOK

During the term, you will create your own personal Reference Book. If you have one from a previous class (such as Math 276) and you wish to continue using that book for this class, it is fine as long as your book has a Title Page and a Table of Contents that corresponds with your contents.

In your Reference Book, you will write definitions, examples, and instructions of things that we learn in this class. This book will be useful to you throughout this course, and especially in Math 15 Elementary Statistics.

You will be allowed to use your Reference Book on our "Reference Book Quizzes" as well as when you are studying and working on your homework, of course, and on part of the Final Exam.

- Get a bound notebook with grid paper in it (sometimes called "quad ruled"). Composition books are about $2 to $4 dollars and are sold at the CR and HSU bookstores, Staples, and other places. *IMPORTANT: Let me know if you cannot find one (apparently supplies are low in local stores).*

- Make a Title Page. The first page of the book (a right-side page) should be made into a title page. Create a title for your book, and include identifying information so it could be returned to you if lost/found.

- Start the Table of Contents. On the top of the **next** page (right side) write "Table of Contents" and reserve the next several pages for your Table of Contents to grow into. Skip at least 4 pages – more if your writing is large or if you anticipate entering particularly detailed information in your "T O C."

- Page 1. The first page that you write actual content information on should be numbered "1".

- Number the following pages. Number the pages, either odd and even on front and back, or you might prefer to number just the right-side pages 1, 2, 3, and so on, leaving the left sides blank at first.

- Enter information regularly as you study and do your homework. Keep just one basic topic on each page, even if you don't fill up every page. The important thing to remember is to make this useful for yourself, so that a year from now (for example), you will be able to find whatever you look for easily. (Write the source of the information in case you want to look back at it again later for clarification.)

- As you add information, write corresponding entries in the T O C, listing the number of the corresponding page ***in your reference book*** to the **right** of the T O C entry.

- What to write: At times, I will direct you to include specific information in your Reference Book. Also, as you study, go over your class notes and read corresponding material in the text, synthesize important information and put it into your Reference Book. Definitions and explanations in your own words will be easier for you to understand later. Include examples and pictures, too.

Your Reference Book will be graded several times during the term. Correctness will be spot-checked (due to lack of time – not for lack of interest!). The Reference Books are graded on three areas: completeness, general correctness, and presentation.

7. Grading information (*subject to change with fair notice*)

	In-class Assignments	Projects	Reference Book	Homework	Quizzes
For A-/A	At least 90% completed satisfactorily	At least 85% average	Excellent Reference Book, with all or most topics covered, with corresponding table of contents	• at least 90% of "Basic" problems completed in a legible, satisfactory way; • good work done on majority of "Advanced" problems	At least 85% average
For B-/B/B+	At least 80% completed satisfactorily	At least 75% average	Good Reference Book, covering majority of course content with corresponding table of contents	• at least 80% of "Basic" problems completed in a legible, satisfactory way; • good work done on at least some "Advanced" problems	At least 75% average
For C-/C/C+	At least 70% completed satisfactorily	At least 65% average	Basic Reference Book has basic topics covered	• at least 70% of "Basic" problems completed in a legible, satisfactory way	At least 65% average
For D	At least 60% completed satisfactorily	At least 60% average	Reference Book must have at least one page of content	• Majority of "Basic" problems completed in a legible, satisfactory way	At least 60% average

For determination of +/- grades, the entire class spread will be considered at the end of the term.

CAVEAT: The above procedures are subject to change.