Harini Chandramouli | Teaching Portfolio

Sample Syllabi
Sample Lesson Plan
Sample Project
Evidence of Teaching Success
Sample Syllabi
Instructor:
Lecturer: Harini Chandramouli
Office: 122 Olin-Rice Science Center
E-mail: hchandra@macalester.edu

Preceptor:
Name: Freddy Barragan
E-mail: fbarraga@macalester.edu

Class Information: TuTh, 03:00PM - 04:30PM, 254 Olin-Rice Science Center

Course Description:
This course focuses on calculus useful for applied work in the natural and social sciences. There is a strong emphasis on developing scientific computing and mathematical modeling skills. The topics include functions as models of data, differential calculus of functions of one and several variables, integration, differential equations, and estimation techniques. Applications are drawn from varied areas, including biology, chemistry, economics, and physics.

Textbooks:

Course Overview:
Calculus is the study of how things change and so is concerned with two fundamental questions:

- If we know how a set of quantities are related, how sensitive is one of these quantities to small changes in another quantity?
- If we know how one quantity changes as another quantity changes, what, if anything, can we say about the accumulation of this change?

In both questions we seek to relate various quantities (variables). This is the job of functions, which are tools for describing the relation between quantities. Calculus is a framework we use to study these functions and how they change. Applied calculus focuses on describing and understanding a system or data using functions as models (quantitative representations of aspects of the real world). These representations come from fields such as economics, environmental science, psychology, medicine, ecology, chemistry, physics, and many more. The goal is to extract useful information from these representations. The course is broken into seven units. Each unit will cover both single variable and multivariable functions: (1) Functions as Models, (2) Units, Dimension, and Fermi Estimation, (3) Computational Differentiation, (4) Symbolic Differentiation, (5) Optimization, (6) Integration and Cumulation, and (7) Differential Equations and Modeling.

Learning Objectives:
MATH 135 aims to help you use and appreciate a variety of mathematical models. This course will help you acquire a toolbox of mathematical techniques that will be useful in your chosen discipline. The successful student will...

- use functions to explain how phenomena change and use calculus techniques to measure both the change itself and its net effect on a system,
- concretely interpret these measurements in regards to the original system using our real world understanding and growing mathematical intuition,
- become familiar with the capabilities of RStudio, including model fitting, graphing, and iterative methods, and
- develop creative problem solving techniques based on a growth mindset
Grades:
Grades will be based on the following distribution:

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>40%</td>
</tr>
<tr>
<td>Unit Quizzes</td>
<td>35%</td>
</tr>
<tr>
<td>RStudio Activities</td>
<td>5%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
</tbody>
</table>

The following chart establishes the letter grading scale for our course.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>0</td>
</tr>
<tr>
<td>D-</td>
<td>60</td>
</tr>
<tr>
<td>D</td>
<td>63</td>
</tr>
<tr>
<td>D+</td>
<td>67</td>
</tr>
<tr>
<td>C-</td>
<td>70</td>
</tr>
<tr>
<td>C</td>
<td>73</td>
</tr>
<tr>
<td>C+</td>
<td>77</td>
</tr>
<tr>
<td>B-</td>
<td>80</td>
</tr>
<tr>
<td>B</td>
<td>83</td>
</tr>
<tr>
<td>B+</td>
<td>87</td>
</tr>
<tr>
<td>A-</td>
<td>90</td>
</tr>
<tr>
<td>A</td>
<td>94</td>
</tr>
</tbody>
</table>

Earning the listed percentage will guarantee the given letter grade. I reserve the right to lower the scale as a final curve to the course accordingly. As such, exams will not be curved.

Homework:
Homework will be assigned through Moodle for each unit. The due dates, posted on Moodle and on the course schedule, will be roughly one week after the completion of the unit. I highly encourage working together on homework and revising your work to reflect further learning. As such, you will be afforded two attempts on homework. After your first attempt, you will be able to see which questions you got incorrect (though not the correct answer). Considering this, and the length of the homework sets, please start these early. You will not be as successful if you start them after the last day of the unit.

Unit Quizzes:
For each unit, you will take an online quiz in which you get two attempts. Your final grade on each unit quiz will be the average of the scores on your attempts in order to encourage you to seek help on the questions you miss on the first attempt. Thus, there is a 24 hour wait period between the two attempts. There is absolutely no collaboration with peers on unit quizzes, although you are encouraged to speak to me or the preceptors between attempts.

Participation:
A typical class period will involve lecture, individual and group work time, and discussion. The best way to learn the material is to be an active learner and participant. A student who gets full points in participation engages in discussion, asks questions when they need, attempts all in class examples (coding or written), and comes prepared to learn. This includes any daily work assigned for the next class period (usually a few examples or some reading/notes) which I will check at the beginning of class.

As the saying goes, math is not a spectator sport. The best way to learn math is to do math. Watching someone do a problem and doing it yourself are two very different things. The goal of creating participation points is to help facilitate a great classroom atmosphere where everyone can learn and grow.

RStudio Activities:
RStudio is an online workspace which will be used during class and on homework to work with data sets and execute computations. It is an open source software used in a variety of scientific disciplines. RStudio will be linked through the Moodle page. I highly recommend that you bring a laptop to class if at all possible for in class RStudio work. Come and see me if this is a concern for you and we’ll work something out. This is an applied calculus course, which means we will be working with models and data. RStudio is an excellent cross-discipline platform for this.

Final Exam:
This is your chance to synthesize and display all of the knowledge you gained in MATH 135. Our final exam will take place on Saturday, December 14th from 01:30PM - 03:30PM. You must take the final in order to pass this class.
Calculators:
Scientific calculators will be allowed on exams, but all work must be completely written out so that it can be understood without the use of a calculator. Scientific calculators are inexpensive, have one-line displays and cannot display graphs of functions, perform symbolic manipulations, or store text in memory. If you are unsure whether your calculator is allowed, check with me before the day of the exam. Cell phones and internet-connected devices are not allowed on exams.

Resources and Tips:
- We will be using guided notes that have been previously developed for this course in our class. Blank versions will be posted on Moodle as pdfs approximately a week ahead of time so you can print them. I recommend that you print them and create a binder or notebook for yourself of the notes.
- If you feel at all behind, please come talk to me or get help using some other path right away. Calculus builds on material from previous units and so falling even a little behind can quickly become untenable. Always be self checking that you know what is going on.
- The MAX center is a great resource for extra help. Make sure you check out their hours for 135 on the Moodle page.
- The best way to learn math is to do it! Don’t be afraid to try something, anything, on a problem. I’m always happy to look over work you’ve done or talk it out with you.
- Professor Topaz has an excellent set of screen casts for the material for MATH 135. His videos will be linked on Moodle and can serve as a sort of extra lecture.

Liberal Education:
Breadth is essential for a liberal arts education. The distribution requirements ensure students take some courses in each of our four academic divisions: Social Sciences, Natural Sciences and Mathematics, Humanities, and Fine Arts. This course counts toward the Natural Science and Mathematics distribution requirement. Additionally, this course carries a Q1 designation and will help you towards fulfilling your quantitative thinking requirement. An important part of any liberal education is learning to use abstract thinking and symbolic language to solve practical problems. Calculus is one of the pillars of modern mathematical thought, and has diverse applications essential to our complex world. In this course, students will be exposed to theoretical concepts at the heart of calculus and to numerous examples of real-world applications.

Disability Accommodations:
Macalester College is committed to providing equal access to learning opportunities for all students. Accommodations are available for students with documented disabilities. Contact the Disability Services Office, (651)-696-6874, to schedule an appointment and discuss your individual circumstances. It is important to meet as early in the semester as possible; this will ensure that your accommodations can be implemented early on. The Director of Disability Services coordinates services for students seeking accommodations. Additional information regarding the accommodations process for students with disabilities can be found at macalester.edu/studentaffairs/disabilityservices/.

Student Conduct and Scholastic Dishonesty:
Academic honesty is absolutely necessary in order to create a fair and successful learning environment. Academic dishonesty will not be tolerated. More information on Macalester’s policies can be found at www.macalester.edu/academicprograms/academicpolicies/academicintegrity/. In MATH 135, the definition of academic dishonesty includes (but is not limited to) copying somebody else’s graded work and using other’s solutions. Any sort of academic dishonesty in this class will result in a deduction of points (up to the full amount of the assignment) and will be reported to the Director of Academic Programs.
Instructor:
Lecturer: Harini Chandramouli
Office: 552 Vincent Hall
E-mail: chand409@umn.edu

Class Information:
MWF, 10:10AM - 11:00PM, 8 Folwell Hall
TTh, 10:10AM - 12:05PM, 8 Folwell Hall

Course Website: http://math.umn.edu/~chand409/F18_4242


Other Resources:

Office Hours:
The instructors of the two MATH 4242 sections have agreed to hold common office hours. That is, you may attend any of the instructor’s office hours.

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Days</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harini Chandramouli</td>
<td>MTWTh</td>
<td>08:45AM - 10:00AM</td>
<td>8 FolH</td>
</tr>
<tr>
<td>Ryan Coopergard</td>
<td>MWF</td>
<td>01:20PM - 02:20PM</td>
<td>526 VinH</td>
</tr>
<tr>
<td></td>
<td>TTh</td>
<td>04:00PM - 05:00PM</td>
<td>526 VinH</td>
</tr>
</tbody>
</table>

Course Description:
Linear algebra is vital to almost all areas of mathematics and multiple areas of science. Linear algebra is the study of linear maps between vector spaces and all the algebra required in applying the theory to concrete problems. It all started with a simple question: solving systems of linear equations. This simple premise gives rise to complex mathematics such as abstract algebra and functional analysis. In addition, an incredible number of modern scientific models are constructed using linear equations. If models are nonlinear, they are also often approximated by linear ones so that scientists can use the power of linear algebra to study the models. Linear equations have been studied for centuries and as a result have developed an incredible number of methods for studying such systems.

In this is a second, advanced course in Linear algebra, we will study some of these methods. Coming from an introductory course in Linear algebra, you are likely familiar with the vector space $\mathbb{R}^n$ and the power of matrices for organizing linear structures. In this course we will see that such linear structures appear not only in $\mathbb{R}^n$ but in a wide range of vector spaces such as the set of polynomials of degree $\leq n$, or the solution set to a linear differential equation. The concepts and skills that you build will provide a unified and far-reaching toolbox for analyzing linear systems. Topics will include fundamental matrix subspaces, inner products, norms, orthogonality, linear transformations, eigenvalues, and eigenvectors. The applications of linear algebra are far-reaching but we will focus on problems in a few fields such as data fitting, ecology, and probability. Linear algebra is a fundamental and extremely powerful tool in many disciplines. It is, without a doubt, one of the most important topics in mathematics you can study and I’m excited to be the one to teach it to you!

Course Learning Objectives:
After this course, students will be able to solve problems using linear algebra and connect it to other fields both within and outside of mathematics. They will be comfortable with the theoretical foundations of linear algebra and understand how to apply these concepts to model, solve, and analyze real-world problems. Students will also have developed their critical thinking skills by learning to write a logical string of precise mathematical statements to be able to justify, and communicate, their reasoning.
How to Succeed in This Course:
The mathematics in this course can be quite difficult and requires a lot of work. To succeed, it’s imperative to not only do all the homework problems, but to understand them. Yes, the solutions manual is readily available but it will not be available to you on an exam. Be able to recreate solutions, don’t just follow them. It is recommended that you work in groups to do the homework assignments and study. Teaching can be the best way to learn, so teach each other problems and ask questions! It is also important to be an active participant in the class. Group work is there to help you practice what you’ve learned while I’m still around to help. When I ask a question in class, use it as an opportunity to practice what you’ve learned - you’re not getting tested, you’re getting a chance to see what you know for yourself. It’s okay to be wrong, it can help everyone learn! I want everyone to do well in this course and I encourage that you to be active participants and to seek out my help, or the help of your classmates, whenever you feel you need it.

Prerequisites: MATH 2243 or 2373 or 2574, with grade of at least a C-.

Grades:
Grades will be based on homework, participation, three exams, and a final exam, each of which are given the following percentage contribution to your final grade:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>25%</td>
</tr>
<tr>
<td>Participation</td>
<td>5%</td>
</tr>
<tr>
<td>Exams</td>
<td>15% each (45% in total)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
</tr>
</tbody>
</table>

Assessments:
Homework. Homework is due by 05:00PM almost every Friday (see schedule for assignments and due dates). Homework may be turned in during class or slid under the instructor’s office door before 05:00PM. Students are encouraged to work together; however, students must write up their own assignment independent of others. You will, at time, get confused while doing this homework as I will assign problems that require you to extend the concepts I have covered in class. Working collaboratively can help alleviate this frustration. However, to understand the material, you need to be able to recreate on your own. Thus, once you’ve worked out the outline of a problem with your peers, go write up the solution on your own to make sure you understand it yourself. The act of copying another person’s work (be it someone from class or something online) is plagiarism and therefore constitutes academic dishonesty. On each homework set, 2-3 problems will be graded. Homework is worth 20 points each, where 5 points are for completion, 3 points are for the neatness/clarity of your work, and the remaining 12 points are distributed among the graded problems. Late homework is not accepted.

If you have extenuating circumstances, please contact the instructor as soon as possible to make the necessary arrangements.

Exams. There will be three exams. They are tentatively scheduled for Friday, June 22nd, Monday, July 9th, and Monday, July 23rd. The cumulative final exam will be the last day of class: Friday, August 3rd. It is two hours long and arrangements will be made for this closer to the date of the final. If you have a conflict with any of these dates, please contact the instructor immediately. There will be no makeup midterm exams except under exceptional circumstances and at the discretion of the instructor.

Participation. Throughout the semester you will be given what are called “quick check-ins” where you have five minutes to answer a question on the board. These questions will not be graded on correctness but instead will simply be used as tool for the instructor to see how well the class is understanding the concepts and be used to calculate the participation grade. These will be administered on random days and you will not be given notice.

Electronics:
No computers or calculators of any kind is allowed to be used on any exam. The exams are designed with this in mind. You may use whatever kind of calculator or computer program you desire to complete any homework problems, but keep in mind that you’ll be expected to solve similar questions on exams without one.
Extra Help:
Do not hesitate to come to office hours or to make an appointment with me, or the other MATH 4242 instructor, to discuss homework problems or any other aspect of the course. If you want to hire an outside tutor (for a fee), I can provide you with a list of qualified people. E-mail for details.

Drop Deadline:
The schedule for drop deadlines can be found at the following site: https://onestop.umn.edu/dates-and-deadlines/canceladd-deadlines#summer.

Disability Accommodations:
The University of Minnesota is committed to providing equal access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations. Information is available on their website https://diversity.umn.edu/disability/, by calling (612) 626-1333 (for both voice and TTY), or by sending an email to ds@umn.edu. The DRC is a great source to get any information or help you think you may need if you need accommodations, don’t hesitate to contact them if you feel it may help you get the most out of this class.

Academic Freedom and Responsibility:
Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgement and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgement about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.* Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost. * Language adapted from the American Association of University Professors “Joint Statement on Rights and Freedoms of Students”.

University Grading Policies:
http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html

Student Conduct and Scholastic Dishonesty:
The University of Minnesota Student Conduct Code governs all activities at the University, including this course. Students who engage in behavior that disrupts the learning environment for others may be subject to disciplinary action under the Code. This includes any behavior that substantially or repeatedly interrupts either the instructor’s ability to teach or the learning of other students. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities. Students responsible for such behavior may be asked to cancel their registration (or have their registration canceled). Scholastic dishonesty includes plagiarizing, cheating on assignments or exams, using a calculator while taking an exam or quiz, engaging in unauthorized collaboration on academic work, and taking, acquiring, or using exam materials without faculty permission. If you have any questions on what may or may not constitute as scholastic dishonesty, feel free to contact the instructor. Scholastic dishonesty in any portion of the academic work for a course shall be grounds for awarding a grade of F or N for the entire course. As you are students of the University of Minnesota, I expect you to follow the student code of conduct which can be found at: http://www1.umn.edu/regents/policies/academic/Student_Conduct_Code.html.

Frustration:
You will get confused sometimes and that is okay. If your confusion is causing you to get frustrated, this too is okay. Please, before giving up on the class, give up on the problem/activity that is causing the frustration.
Respect:
I expect us to behave like adults and to respect one another. Failure to do this is grounds for immediate removal from my class. Egregious incidents will be reported to the University for disciplinary action.

Sexual Harassment. “Sexual harassment” means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual’s work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy: http://www1.umn.edu/regents/policies/humanresources/SexHarassment.html.

Equity, Diversity, Equal Opportunity, and Affirmative Action. The University will provide equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: http://www1.umn.edu/regents/policies/administrative/EquityDiversityEOAA.html.

Mental Health and Stress Management:
As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: http://www.mentalhealth.umn.edu.
Schedule:
The following schedule is for both MATH 4242 sections this Summer and thus we will be sticking to it as much as possible. Any changes from this schedule will be announced.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Section Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Monday, June 11</td>
<td>§1.1 (Solution of Linear Systems)</td>
</tr>
<tr>
<td></td>
<td>Tuesday, June 12</td>
<td>§1.3 (Gaussian Elimination – Regular Case)</td>
</tr>
<tr>
<td></td>
<td>Wednesday, June 13</td>
<td>§1.4 (Pivoting and Permutations)</td>
</tr>
<tr>
<td></td>
<td>Thursday, June 14</td>
<td>§1.5 (Matrix Inverses)</td>
</tr>
<tr>
<td></td>
<td>Friday, June 15</td>
<td>§1.5 (cont’d)</td>
</tr>
<tr>
<td></td>
<td>Monday, June 18</td>
<td>§1.6 (Transposes and Symmetric Matrices)</td>
</tr>
<tr>
<td></td>
<td>Tuesday, June 19</td>
<td>§1.8 (General Linear Systems)</td>
</tr>
<tr>
<td></td>
<td>Wednesday, June 20</td>
<td>§1.9 (Determinants)</td>
</tr>
<tr>
<td></td>
<td>Thursday, June 21</td>
<td>Exam 1</td>
</tr>
<tr>
<td></td>
<td>Friday, June 22</td>
<td>Exam 2</td>
</tr>
<tr>
<td>2</td>
<td>Monday, June 25</td>
<td>§2.1 (Real Vector Spaces)</td>
</tr>
<tr>
<td></td>
<td>Tuesday, June 26</td>
<td>§2.2 (Subspace)</td>
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<tr>
<td></td>
<td>Wednesday, June 27</td>
<td>§2.3 (Span and Linear Independence)</td>
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<td></td>
<td>Thursday, June 28</td>
<td>§2.4 (Basis and Dimension)</td>
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<tr>
<td></td>
<td>Friday, June 29</td>
<td>§2.5 (The Fundamental Matrix Subspaces)</td>
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<tr>
<td>3</td>
<td>Monday, July 2</td>
<td>§3.1 (Inner Products)</td>
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<tr>
<td></td>
<td>Tuesday, July 3</td>
<td>§3.2 (Inequalities)</td>
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<td></td>
<td>Wednesday, July 4</td>
<td>§3.3 (Norms)</td>
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<tr>
<td></td>
<td>Thursday, July 5</td>
<td>§3.4 (Positive Definite Matrices)</td>
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<tr>
<td></td>
<td>Friday, July 6</td>
<td>§3.5 (Completing the Square)</td>
</tr>
<tr>
<td></td>
<td>Monday, July 9</td>
<td>§3.6 (Complex Vector Spaces)</td>
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<tr>
<td></td>
<td>Tuesday, July 10</td>
<td>Exam 3</td>
</tr>
<tr>
<td></td>
<td>Wednesday, July 11</td>
<td>§7.1 (Linear Functions)</td>
</tr>
<tr>
<td></td>
<td>Thursday, July 12</td>
<td>§7.2 (Linear Transformations)</td>
</tr>
<tr>
<td></td>
<td>Friday, July 13</td>
<td>§7.4 (Linear Systems)</td>
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<tr>
<td></td>
<td>Monday, July 16</td>
<td>§7.5 (Adjoints, Positive Definite Operators, and Minimizations Principles)</td>
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<tr>
<td></td>
<td>Tuesday, July 17</td>
<td>§8.1 (Linear Dynamical Systems)</td>
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<tr>
<td></td>
<td>Wednesday, July 18</td>
<td>§8.2 (Eigenvalues and Eigenvectors)</td>
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<tr>
<td></td>
<td>Thursday, July 19</td>
<td>§8.3 (Eigenvector Bases)</td>
</tr>
<tr>
<td></td>
<td>Friday, July 20</td>
<td>§8.4 (Invariant Subspaces)</td>
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<tr>
<td></td>
<td>Monday, July 23</td>
<td>§8.5 (Eigenvalues of Symmetric Matrices)</td>
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<tr>
<td></td>
<td>Tuesday, July 24</td>
<td>§8.6 (Incomplete Matrices)</td>
</tr>
<tr>
<td></td>
<td>Wednesday, July 25</td>
<td>Exam 4</td>
</tr>
<tr>
<td></td>
<td>Thursday, July 26</td>
<td>Special Topics: Minimization, Closest Point</td>
</tr>
<tr>
<td></td>
<td>Friday, July 27</td>
<td>Special Topics: Least Squares</td>
</tr>
<tr>
<td>8</td>
<td>Monday, July 30</td>
<td>Special Topics: Markov Processes</td>
</tr>
<tr>
<td></td>
<td>Tuesday, July 31</td>
<td>Special Topics: Applications of Markov Processes</td>
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<tr>
<td></td>
<td>Wednesday, August 1</td>
<td>Special Topics: 2D Continuous Dynamical Systems</td>
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<tr>
<td></td>
<td>Thursday, August 2</td>
<td>Special Topics: Graph Theory with Applications</td>
</tr>
<tr>
<td></td>
<td>Friday, August 3</td>
<td>Review</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Final Exam</td>
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</tbody>
</table>
Sample Lesson Plan
Lesson Design. This lesson is designed to span three days, two lectures and one discussion section. On the first day, the instructor introduces the concept of related rates problems and works through several examples to model the problem-solving process. Word problems are often a stumbling block for students and as part of the lesson the instructor includes an overview of problem-solving strategies for related-rates problems. These examples are often on the simpler side so that students can get a feel for how these problems work. On the second day, students are given a worksheet where they can take what they’ve learned from the first lesson and apply it to some problems. Students work through these problems, which are at a higher level of difficulty, with the guidance of a TA. When students have issues working through the problems, the TA can guide them through the sticking points. On the third day, the instructor works through examples again, but these are at a high level of difficulty. Over the three days, a variety of related rates problems should be showcased that mimic the different kinds they will see on the homework, quizzes, and exams.

Lesson Goals The lecture portions of the lesson are designed to help students get introduced to and observe the problem solving process in action. The worksheet portion of the lesson is designed to help the students learn by applying their problem solving skills and logically working out solutions. By the end of this lesson, students should be able to

- translate, model, and solve a related rates problem and interpret the meaning of the answer,
- understand that related rates problems are applications of implicit differentiation, and
- improve problem-solving and critical thinking skills.

In the lectures, we introduce a set of steps to solve related rates problems. These help students develop their problem solving skills and can see how various related rates are similar to one another. The first example of a spherical balloon is used to ease students into related rates problems. The steps are easily applied here with no extra steps involved in finding variables. The second example of the ladder sliding down the wall is used as it is a classical related rates problem. In this exercise we first introduce the idea of using information from the problem to solve for an unknown quantity. The third example of a plane flying is very similar, but uses some interpretation of the word problem to place signs appropriately. In lecture 2, we reiterate the steps of solving a related rates problem as a quick review. The examples presented here are also quintessential related rates problems: a tank with leaking water, a person walking away from a lamp, and two ships sailing away from each other. The first two problems have unknown quantities that must be determined using the similar triangles relationship, a method that students often struggle with. The unknown quantities are solved for at different steps to show there are multiple ways to work through the logic of such problems. The last problem involves the Pythagorean Theorem, but involves setting up a coordinate system and considering time.

In the worksheet, students are introduced to a few related rates problems they can do themselves. Problems are chosen to be slightly difficult as TAs will be present to help. Students learn mathematics best when they engage with it themselves. This gives them the opportunity to work through the different parts of problems that are hardest for them.

Lesson Implementation In the following pages you will find two lectures and a worksheet. They are ordered in the sequence they will be presented to students,

- Lecture notes on Related Rates, part 1
- Worksheet on Related Rates
- Lecture notes on Related Rates, part 2

The lecture notes are transcriptions of what should be on the board. Instructors may choose to put different amounts of the “explanations” on the board, but I suggest leaning towards more than less. I also suggest printing these problem statements and handing them out or projecting them so time is not lost transcribing these problems. Three problems are presented per lecture, but I only expect an instructor to finish the first two each day.

Whenever possible during lectures, solicit students to answer questions and help guide the problems. This is of particular importance during the second lesson once students have already had some practice working through these problems. When setting up the problems, be sure to point out where the words in the problem relate to the variables and equations you are using (color coded in the lecture). Always draw a picture and emphasize the importance of visualizing these problems. It is easy for students to lose track of what is happening without pictures and labels, and this will be important in later sections as well (e.g. optimization, volumes of revolution). Lastly, answers should be written in the form of a sentence so students can be sure to realize what their numbers mean. Be sure to box answers when doing examples.
Related Rates, Lecture 1

Related rates problems are just word problems with derivatives.

When two or more quantities are related by an equation (usually given by some geometric or physical law), and those quantities are functions of a common input (almost always time), then their derivatives (rates of change) are related by some equation that we obtain by differentiating the functions on both sides of the original equation.

This will involve the use of implicit differentiation.

When doing any related rates problems, be sure to follow these steps...

- Read the problem carefully and make note of all the given information.
- Draw a diagram.
- Introduce notation. Assign symbols to all quantities that are functions of time.
- Express the given information and the required rates in terms of derivatives.
- Write an equation that relates the various quantities of the problem. If necessary, use the geometry of the situation to eliminate one of the variables by substitution.
- Use implicit differentiation to differentiate both sides of the equation with respect to time.
- Substitute the given information into the resulting equation and solve for the unknown rate.
- Make sure to answer the question asked.

Ex. The radius of a spherical balloon is increasing at a constant rate of 4 mm/s. What is the rate of change of the surface area of the balloon when the diameter is 80 mm?

Solution.
Before we try this problem, what do you expect to be true?
(a) the surface area is increasing at that time
(b) the surface area is not changing at that time
(c) the surface area is decreasing at that time
(d) the surface area is not changing at any time

Given information:
rate of change of radius, 4

Notation:
\( r \) = radius of sphere
\( d \) = diameter of sphere
\( S \) = surface area of sphere
Note: all of these are functions of time

Express related rates in terms of derivatives:
\[
\frac{dr}{dt} = 4, \quad \frac{dS}{dt} = ?? \text{ when } d = 80
\]

Write an equation that relates the various quantities of the problem:
\[
S = 4\pi r^2
\]

Use implicit differentiation:
\[
\frac{dS}{dt} = 4\pi \cdot 2r \cdot \frac{dr}{dt} = 8\pi r \frac{dr}{dt}
\]

Solve for the unknown rate:
\[
\frac{dS}{dt} = 8\pi(40)(4) = 1280\pi
\]

Answer the question:
The surface area of the balloon is changing at a rate of 1280\pi \text{ mm}^2/\text{s} when the diameter is 80 mm.
Ex. A ladder 10 ft long rests against a vertical wall. If the bottom of the ladder slides away from the wall at a rate of 1 ft/s, how fast is the top of the ladder sliding down the wall when the bottom of the ladder is 6 ft from the wall?

**Solution.**

**Given information:**
- height of ladder, 10
- rate ladder slides, 1

**Notation:**
- $x =$ length bottom of ladder is from wall
- $y =$ height ladder sits at
- $\ell =$ length of ladder

**Express related rates in terms of derivatives:**

$\ell = 10, \quad \frac{dx}{dt} = 1, \quad \frac{dy}{dt} = ??$ when $x = 6$

**Write an equation that relates the various quantities of the problem:**

$x^2 + y^2 = \ell^2 = (10)^2 = 100$

**Use implicit differentiation:**

$2x \cdot \frac{dx}{dt} + 2y \cdot \frac{dy}{dt} = 0$

**Solve for the unknown rate:**

$2(6)(1) + 2y \frac{dy}{dt} = 0 \ldots \text{but what about } y?$

We are finding $\frac{dy}{dt}$ when $x = 6$, so we know two sides of this right triangle.

Use the Pythagorean Theorem to find $y$:

$x^2 + y^2 = 10^2 \implies 6^2 + y^2 = 10^2 \implies y = 8$

So now we can go back to our previous calculation and see that we have:

$2x \frac{dx}{dt} = 2y \frac{dy}{dt} = 0$

$2(6)(1) + 2(8) \frac{dy}{dt} = 0 \implies \frac{dy}{dt} = -\frac{3}{4}$

**Answer the question:**

The ladder is sliding down the wall at a rate of $\frac{3}{4}$ ft/s when the ladder is 6 ft from the wall.

//
Ex. A plane is 750 meters in the air flying parallel to the ground towards a radar station at a speed of 100 m/s. The plane is 2.5 km away from a radar station horizontally. At what rate is the distance between the plane and the radar station changing?

Solution.

Given information:
- height of plane, 750
- speed of plane, 100
- horizontal distance of plane, 2500
  
  (Note: converted to m)

Notation:
- \( x \) = horizontal distance of plane
- \( D \) = distance from plane to radar station

Express related rates in terms of derivatives:
\[
\frac{dx}{dt} = -100, \quad \frac{dD}{dt} = ?? \text{ when } x = 2500
\]

(Note: \( \frac{dx}{dt} < 0 \) because \( x \) will be decreasing.)

Write an equation that relates the various quantities of the problem:
\[
x^2 + 750^2 = D^2
\]

Use implicit differentiation:
\[
2x \cdot \frac{dx}{dt} = 2D \cdot \frac{dD}{dt}
\]

Solve for the unknown rate:

We know what all the values are except \( D \). How do we find \( D \) when \( x = 2500 \)?

The Pythagorean Theorem:
\[
D = \sqrt{2500^2 + 750^2} = \sqrt{6812500} = 250\sqrt{109}
\]

Now we can plug in to our equation and solve:
\[
2(2500)(-100) = 2 \left( 250\sqrt{109} \right) \frac{dD}{dt} \quad \Rightarrow \quad \frac{dD}{dt} \approx -95.7826
\]

Answer the question:
The distance between the plane and radar station is changing at a rate of -95.7826 m/s.
1. When doing any related rates problem, be sure to follow the steps outlined below.
   (1) Read the problem carefully! Make a note of all the given information.
   (2) Draw a diagram!
   (3) Introduce notation. Assign symbols to all quantities that are functions of time.
   (4) Express the given information and the required rate in terms of derivatives.
   (5) Write an equation that relates the various quantities of the problem. If necessary, use the geometry of the
       situation to eliminate one of the variables by substitution.
   (6) Use implicit differentiation to differentiate both sides of the equation with respect to $t$.
   (7) Substitute the given information into the resulting equation and solve for the unknown rate.
   (8) Make sure the answer the question asked!

2. A cylinder tank has radius 20 cm. How fast does the water level in the tank drop when the water is being drained
   from the tank at 25 cm$^3$/s?
3. A baseball diamond is a square with 90 ft on each side. A player runs from first base to second base at 15 ft/s. At what rate is the player’s distance from third base changing when he is halfway from first base to second base?

4. A kite 100 ft above the ground moves horizontally at a speed of 8 ft/s. At what rate is the angle between the string and the horizontal decreasing when 200 ft of string has been let out.
When doing any related rates problems, be sure to follow these steps...

- **Read the problem carefully and make note of all the given information.**
- **Draw a diagram.**
- **Introduce notation.** Assign symbols to all quantities that are functions of time.
- **Express the given information and the required rates in terms of derivatives.**
- **Write an equation that relates the various quantities of the problem.** If necessary, use the geometry of the situation to eliminate one of the variables by substitution.
- **Use implicit differentiation** to differentiate both sides of the equation with respect to time.
- **Substitute the given information into the resulting equation and solve for the unknown rate.**
- **Make sure to answer the question asked.**

**Ex.** A tank of water in the shape of a cone is leaking water at a constant rate of 2 ft³/hr. The base radius of the tank is 5 ft and the height of the tank is 14 ft. At what rate is the depth of the water in the tank changing when the depth of the water is 6 ft?

**Solution.**

**Given information:**
- water leaking rate, 2
- base of radius, 5
- height of tank, 14

**Notation:**
- \( r \) = radius of water
- \( h \) = height of water
- \( V \) = volume of water

**Express related rates in terms of derivatives:**
\[
\frac{dV}{dt} = -2, \quad \frac{dh}{dt} = ?? \text{ when } h = 6
\]

**Write an equation that relates the various quantities of the problem:**
\[
V = \frac{1}{3} \pi r^2 h
\]

**Use implicit differentiation:**
\[
\frac{dV}{dt} = \frac{2}{3} \pi r \cdot \frac{dr}{dt} + \frac{1}{3} \pi r^2 \cdot \frac{dh}{dt}
\]

**Solve for the unknown rate:**

... but wait! What about \( r \) and \( \frac{dr}{dt} \)?

We will use **similar triangles** here! Recall that two triangles are called similar if their angles are identical, which in this case they are if we focus on the right half of the tank. So we have two similar triangles, which means the ratio of their side lengths must be equal.

\[
\frac{r}{h} = \frac{5}{14} \implies r = \frac{5}{14} h
\]

We can go back and substitute into our initial equation for volume now:
\[
V = \frac{1}{3} \pi r^2 h = \frac{1}{3} \pi \left( \frac{5}{14} h \right)^2 h = \frac{25}{588} \pi h^3.
\]

Now, we take the derivative and plug in our known information:
\[
\frac{dV}{dt} = \frac{25}{196} \pi h^2 \cdot \frac{dh}{dt}
\]
\[
-2 = \frac{25}{196} \pi (6)^2 \frac{dh}{dt} \implies \frac{dh}{dt} = -\frac{98}{255\pi}
\]

**Answer the question:**

The height of the water in the tank is decreasing at a rate of \( -\frac{98}{255\pi} \) ft/hr when the height of the water is 6 ft.
A light is on the top of a 12 ft tall pole and a 5 ft 6 in tall person is walking away from the pole at a rate of 2 ft/s. At what rate is the tip of the shadow moving away from the pole when the person is 25 ft from the pole?

Solution.

Given information:
- height of lamp, 12 ft
- height of person, 5.5 ft
- rate person is walking, 2 ft/s

Notation:
- \( x_p \) = distance person is from lamp
- \( x_s \) = length of shadow
- \( x = x_s + x_p \)

Express related rates in terms of derivatives:
\[
\frac{dx_p}{dt} = 2, \quad \frac{dx}{dt} = ?? \text{ when } x_p = 25
\]

Write an equation that relates the various quantities of the problem:
\[
x = x_p + x_s \text{ where } x \text{ is the length of the base of the triangle.}
\]
But we don’t want two variables, we want one. Since we have information on \( x_p \), let’s eliminate \( x_s \) by using similar triangles!

\[
\frac{5.5}{12} = \frac{x_s}{x} \implies x_s = \frac{11x}{24}
\]

Substituting this into our original equation, we get
\[
x = x_p + x_s = x_p + \frac{11}{24}x_p = \frac{24}{13}x_p
\]

Use implicit differentiation:
\[
\frac{dx}{dt} = \frac{24}{13} \frac{dx_p}{dt}
\]

Solve for the unknown rate:
\[
\frac{dx}{dt} = \frac{24}{13} (2) = \frac{48}{13}
\]

Answer the question:
The tip of the shadow is moving away from the pole at a rate of \( \frac{48}{13} \) ft/s when the person is 25 ft from the pole.
Ex. At noon, the USS Arlington is 150 km west of the USS Boise. The Arlington is sailing east at a constant velocity of 35 km/h and the Boise is sailing north at a constant velocity 25 km/h. How fast is the distance between the ships changing at 4pm?

Solution.

Given information:
- Distance Arlington is West of Boise, 150
- Rate Arlington is sailing East, 35
- Rate Boise is sailing North, 25

Notation:
- $A$ = distance the Arlington is traveling East
- $B$ = distance the Boise is sailing North
- $D$ = distance between the Arlington and Boise

Express related rates in terms of derivatives:

\[
\frac{dA}{dt} = 35, \quad \frac{dB}{dt} = 25, \quad \frac{dD}{dt} = ?? \quad \text{when } t = 4
\]

Write an equation that relates the various quantities of the problem:

\[
A^2 + B^2 = D^2
\]

Use implicit differentiation:

\[
2A \frac{dA}{dt} + 2B \frac{dB}{dt} = 2D \frac{dD}{dt}
\]

Solve for the unknown rate:

...but wait, we need to know all these quantities at $t = 4$ to solve the problem.

So we need to find $A(4)$, $B(4)$, $D(4)$.

If $A(0) = -150$, then after 4 hours of traveling East at 35 mph,

\[
A(4) = -150 + 4(35) = -10
\]

Similarly, if $B(0) = 0$, then after 4 hours of traveling North at 25 mph,

\[
B(4) = 0 + 4(25) = 100
\]

How do we find $D(4)$? We can use the Pythagorean Theorem!

\[
A^2 + B^2 = D^2 \implies D(4) = \sqrt{(-10)^2 + 100^2} = \sqrt{10100}
\]

So now we can go back to our previous calculation and see that we have:

\[
2A \frac{dA}{dt} + 2B \frac{dB}{dt} = 2D \frac{dD}{dt}
\]

\[
2(-10)(35) + 2(100)(25) = 2\sqrt{10100} \cdot \frac{dD}{dt} \implies \frac{dD}{dt} = \frac{2500 - 350}{\sqrt{10100}} \approx 21.4
\]

Answer the question:

The distance between the ships is changing at a rate of approximately 21.4 km/h at 4pm.

//
Instructions:
A Markov chain is a stochastic model describing a sequence of possible events in which the probability of each event occurring depends only upon the state attained in the previous event ("memorylessness" or the Markov property). There are a large number of physical, biological, economic, and social phenomena that can be described using Markov chains.

Of the numerous possible examples of Markov chains, we have picked 3 applications. They have to do with...

(1) Google’s PageRank Algorithm
(2) Voting
(3) Genetics

With your partner, choose one of the three applications above. Please inform your instructor which topic your pair has chosen. No more than four pairs can do one topic. Once your team has picked a topic, get the relevant sheet from your instructor. On this sheet you will find a list of questions. You and your partner will be answering these questions and turning in your work. You can use any software you’d like to use to help you complete these questions (MATLAB, Mathematica, Maple, etc.), just let us know what you used.

What you turn in needs to have answered all the questions posed and explain your thought process. It should not just be a list of answers to the questions. We expect that what you turn in should be something like a typed report (if you do not have access to a computer to type up your work, please let the instructor know).

Rubric and Grades:

<table>
<thead>
<tr>
<th>Neatness + Clarity</th>
<th>10 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct Answers</td>
<td>10 points</td>
</tr>
<tr>
<td>Explanations</td>
<td>10 points</td>
</tr>
<tr>
<td>(Bonus) Use \LaTeX</td>
<td>2 points</td>
</tr>
</tbody>
</table>

This project is out of 30 points and will be counted as HW 13 - the last homework of the semester. You and your partner will receive the same grade out of 30 points.
Problem 1: Google’s PageRank Algorithm

When you do a Google search, you get a list of websites that Google thinks match your query. Google makes a choice as to which websites it believes are more important than others and puts them towards the top. But how does Google choose which website goes first?

What Google does is rank the websites according to “importance” - but what metric will we use for importance? We use the existing link structure of the web. Every time a website links to a certain page, think of it as a vote for its importance.

Let’s pretend that the internet only has 4 websites. We make a directed graph of the internet below, where each arrow indicates a link.

In 1996, Larry Page and Sergey Brin came up with what is known as the PageRank algorithm which works as follows. If there are \( \ell \) pages that link to website \( k \), then

\[
x_k = \sum_{j=1}^{\ell} \frac{x_j}{n_j}
\]

where \( x_j \) represents the number of links to website \( j \) and \( n_j \) is the number of outgoing links from page \( j \). So we’re evenly splitting by the number of pages linked to by the website. For example, in the above drawing

\[
x_3 = \frac{1}{3}x_1 + \frac{1}{2}x_2 + \frac{1}{2}x_4.
\]

We can easily turn this into a linear system \( Ax \), where the \( n \times n \) matrix \( A \) (called the link matrix) is filled in as follows:

\[
a_{ij} = \begin{cases} 
\frac{1}{n_j}, & \text{if website } j \text{ links to website } i \\
0, & \text{otherwise}
\end{cases}
\]

Brin and Page viewed web surfing as a random process and thought of PageRank as a model of user behavior.

References.
Questions.

1. The number \( x_j \) which represents the number of links to website \( j \) could have also been used to be our “importance score” without creating a system of equations at all. Can you think of a reason why this isn’t a good idea? What about using sum of the importance scores of all the websites linking to website \( j \)? For example, in the 4 website example given previously, why not let the system be given as follows:

\[
\begin{align*}
  x_1 &= x_3 + x_4 \\
  x_2 &= x_1 \\
  x_3 &= x_1 + x_2 + x_4 \\
  x_4 &= x_1 + x_2
\end{align*}
\]

Can you think of a reason why this isn’t a good idea either?

2. Assume the internet has a total of 6 websites. Website 1 links to websites 3 and 5. Website 2 links to websites 1 and 6. Website 3 links to websites 2, 4, 5. Website 4 links to website 2. Website 5 links to websites 1, 3, and 6. Website 6 links to website 4.

(a) Draw a directed graph of the website links.
(b) Find the link matrix \( A \). Is this matrix regular?
(c) Find the steady state vector, \( \mathbf{p}_\infty \). In this context, we have the columns summing to 1 so the steady state vector is the eigenvector as usual. We call this vector the PageRank vector in this application. Note that this is a probability vector so its terms should sum to 1. Explain what the steady state vector means in this application.

The PageRank algorithm, as given, has a few difficulties. The following questions deal with such issues.

3. We need our eigenspace associated to \( \lambda = 1 \) to be one dimensional, or else we wouldn’t know what to use for our \( \mathbf{p}_\infty \). This holds true for the special case of a strongly connected web (that is, you can get from any page to any other page in a finite number of steps). Construct a web consisting of 3 completely disjoint subwebs and verify that the dimension of the eigenspace associated to the eigenvalue 1 is equal to, or exceeds, 3 (the number of components in the web).

4. Another issue is what would happen if one or more of the columns of \( A \) is all zeros. In this case, the column sums of \( A \) are less than or equal to one and the eigenvalues are known to be less than or equal to 1 in magnitude, and 1 may not even be an eigenvalue. Assume the internet has a total of 4 websites. Website 1 links to websites 2, 3, and 4. Website 2 links to websites 3 and 4. Website 3 links to website 1. Website 4 links to websites 1 and 3. Draw a directed graph of this situation. Suppose the person who owns page 3 is infuriated by the fact that its importance score is lower than the score of page 1. In an attempt to boost page 3’s score, they create a page 5 that links to page 3; page 3 also links to page 5. Does this boost page 3’s score above that of page 1?
Problem 2: Voting

The eligibility to vote in the United State is established by the United States Constitution and also by state law. Several constitutional amendments (the 15th, 19th, and 26th specifically) require that voting rights cannot be abridged on account of race, color, previous condition of servitude, sex, or age for those above 18 (previously the voting age had been 21). Starting with George Washington’s terms, we’ve had two major political parties fighting it out for seats in the House of Representatives and the Senate and the Presidency itself (while Washington himself had no party affiliation technically, the roots of the Federalist and Democratic-Republican parties started during his terms). Occasionally a third party has emerged to grab some votes in a presidential election, but never a majority (though the Bull Moose party did get quite a few votes in the election of 1912).

Given what we know historically about the political parties, the population of voters in America can be divided into 3 groups: Democrats (D), Republicans (R), and Independents (I), who will represent all the other parties combined. Suppose a study was done to learn that of those who voted Democratic in a given presidential election: 70% will vote Democratic in the next election, 20% will vote Republican, and 10% will vote Independent. We also learn that of those who voted Republican in a given presidential election: 80% will vote Republican in the next election, 10% will vote Democratic, and 10% will vote Independent. Of those who voted Independent in a given presidential election: 40% will vote Independent again in the next election, 30% will vote Republican, and 30% will vote Democratic.

To make this application work as we’d like it to, we’ll have to make a few assumptions. First, we will assume that the winner of the popular vote is also the winner of an election (so no electoral college). Secondly, we will assume that each time step takes us to the next election (that is, if \( n = 0 \) represents the 1992 election, then \( n = 1 \) represents the 1996 election).

References.
Questions.

1. Write down the transition matrix describing the tendency of voter shift. Additionally, draw a transition diagram of the situation.

2. In the 2004 presidential election, 48% of people voted Democrat, 51% of people voted Republican, and 1% of people voted Independent.
   (a) Using this initial condition, what percent of people voted Democrat in 2016? Republican? Independent?
   (b) Is the transition matrix regular? If so, find the steady state. Note that this is a probability vector so its terms should sum to 1. What does this represent in words?

3. In 2016, 46.4% of people voted Republican, 48.5% of people voted Democrat, and 5.1% of people voted Independent. Does this match what you got in Question 2(a)? Calculate the squared norm of the error between your prediction from Question 2(a) and what was observed in 2016.

4. Let us say that in 2024 a new major party shows up in the United States of America (feel free to name this party yourself!). Of those who voted Democrat in the 2020 election: 67% will vote Democrat, 20% will vote Republican, 10% will vote Independent, and 3% will vote with the new party. Of those who voted Republican in the 2020 election: 76% will vote Republican, 10% will vote Democrat, 10% will vote Independent, and 4% will vote with the new party. Of those who voted Independent in the 2020 election: 40% will vote Independent, 30% will vote Democrat, and 30% will vote Republican.
   (a) Does the introduction of the new party change the outcome of the 2024 election as predicted previously? Try this starting with 2016 and also starting with 2004. Use your previous transition matrix until 2020, and then use the new one.

   As time goes on, we learn that of those who voted with the new party in a given election: 60% will vote with the new party in the next election, 10% will vote Republican, 10% will vote Democrat, and 20% will vote Independent.

   (b) Draw a new transition diagram to represent this situation.
   (c) What is the transition matrix?
   (d) Is the transition matrix regular? If so, what is the steady state vector? Compare this steady state vector to the one found in Question 2(b). How are the Democrat and Republican party affected by a new party in the long run?

5. Let state 1 be for Democrats, state 2 for Republicans, state 3 for Independents, and state 4 for the new party. Consider the transition matrix below:

\[
T = \begin{pmatrix}
0.7 - p & 0.2 - p & 0.1 & 2p \\
0.1 - p & 0.8 - p & 0.1 & 2p \\
0.3 & 0.3 & 0.4 & 0 \\
0 & 0 & 1 & 0
\end{pmatrix}
\]

where \( p \in [0, 0.1] \). Here \( 2p \) represents the rate at which the new party (N) siphons votes from the Democrat and Republican parties. Note that the new party does not retain its members, but in fact they all vote Independent in the next election. Show that as long as \( p \neq 0 \), the new party survives indefinitely. Why do you think this is true?
Problem 3: Genetics

Mendelian inheritance is a type of biological inheritance that follows laws originally proposed by the Austrian monk Gregor Mendel in the 1860s. They are part of the core of classical genetics. Mendel discovered these laws while breeding pea plants with purple and white flowers. Mendel found that genes can have various forms, called alleles.

For each biological trait, an organism inherits two alleles, one from each parent. These alleles may be the same or different. The genotype of an individual is made up of the many alleles it possesses. An individual’s physical appearance, or phenotype, is determined by its alleles as well as its environment. From this, Mendel developed 3 laws of inheritance.

1. Law of Segregation: Every parent only passes along one allele for a gene.
2. Law of Independent Assortment: Genes for different traits get passed on independently.
3. Law of Dominance: Some alleles are dominant while others are recessive; an organism with at least one dominant allele will display the effect of the dominant allele.

We generally use capital letters to denote the dominant genes and small letters to denote the recessive genes. Suppose \( A \) represents a dominant gene for some trait and \( a \) the recessive gene. If a person has a dominant homogeneous genotype, it is denoted by \( AA \). If a person has a heterogeneous genotype, it is denoted by \( Aa \). If a person has a recessive homogeneous genotype, it is denoted by \( aa \). In simple Mendelian genetics, a person with the heterogeneous genotype displays the same phenotype as the person with the dominant homogeneous genotype.

Let us do a small example. Let us look at the peas that Mendel considered. He noticed that purple flowers on the pea plants was the dominant phenotype (\( F \)) and white flowers on the pea plans was the recessive phenotype (\( f \)). Let us make a Punnett square to see all the possible genotypes and phenotypes of the offspring of breeding two pea plants with the \( Ff \) genotype (the phenotype being purple flowers):

\[
\begin{array}{cc}
F & f \\
F & FF & Ff \\
f & Ff & ff \\
\end{array}
\]

We learn that 75% of the offspring will have the phenotype of purple flowers (\( FF, Ff \)), while 25% will have the phenotype of white flowers (\( ff \)). As for the genotypes, 25% of the offspring will be dominant homogeneous (\( FF \)), 50% of the offspring will be heterogeneous (\( Ff \)), and 25% of the offspring will be recessive homogeneous (\( ff \)).

References.
Questions.

1. Consider a process of continued matings. Start with an individual of a known (or unknown) genetic character and mate them with an individual with heterogeneous genotype. Let the three possible states be $AA$, $Aa$, and $aa$ (you are welcome to find a specific example of a gene that follows Mendelian inheritance patterns and use that, along with a different letter).
   (a) Make a transition matrix and draw a transition diagram of the situation.
   (b) Is the transition matrix regular? If it is, compute the steady state vector. Note that this is a probability vector so its terms should sum to 1. What does this mean in words?

2. Consider a similar experiment, but instead we mate the next generation with an individual of the dominant homogeneous genotype. Answer parts (a) and (b) from Question 1 for this experiment.

3. A state in a Markov chain is called absorbing if once it occurs in the $n^{th}$ generation of the experiment, it will occur for every subsequent step. A Markov chain is said to be absorbing itself if it has at least one absorbing state. Do either of the Markov chains from Questions 1 or 2 have an absorbing state? If so, what are they? Be sure to explain your answer using both mathematics and what you’ve learned about Mendelian inheritance.

4. What if instead we start with two individuals and mate them, then select two of their offspring and mate them, and so on and so forth. Here a state of our Markov chain is determined by a pair of individuals. We have six states:
   
   $$(AA, AA), (AA, Aa), (AA, aa), (Aa, Aa), (Aa, aa), (aa, aa).$$

   (a) Find the transition matrix and draw a transition diagram of the situation.
   (b) Identify the absorbing states.
   (c) Any transition matrix, $T$ for an absorbing Markov chain can be written in the form
   $T = \begin{pmatrix} I_m & Q \\ R & Q \end{pmatrix}$

   where $I_m$ is the identity matrix, with $m$ equal to the number of absorbing states, and $O$ is a matrix of all zeros. Write the transition matrix from part (a) in this form.
   (d) We define the fundamental matrix $F = (I_n - Q)^{-1}$, where $I_n$ is the same size as $Q$. The $ij^{th}$ element of this matrix gives you the number of visits to state $j$ that are expected to occur before absorption, given that the current state is $i$. The product $FR$ gives the matrix of probabilities that a particular initial non-absorbing state will lead to a particular absorbing state. Find $F$, and the product $FR$.
   (e) If two individuals with the genes $Aa$ are mated, find the probability that the recessive gene will eventually disappear.
Evidence of Teaching Success
Below are the responses to evaluations from courses for which I was a TA at the University of Minnesota. Full evaluations begin on the next page. Students are given each of the following statements for which they much respond on a scale of 1 to 6:
1 being “Strongly Disagree” and 6 being “Strongly Agree”

MATH 2374: CSE Multivariable Calculus and Vector Analysis, Spring 2017

As related to the instructor...

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>“The instructor was well prepared for class.”</td>
<td>5.80</td>
<td>6.00</td>
</tr>
<tr>
<td>“The instructor presented the subject matter clearly.”</td>
<td>5.65</td>
<td>6.00</td>
</tr>
<tr>
<td>“The instructor provided feedback intended to improve my course performance.”</td>
<td>5.50</td>
<td>6.00</td>
</tr>
<tr>
<td>“The instructor treated me with respect.”</td>
<td>5.75</td>
<td>6.00</td>
</tr>
<tr>
<td>“I would recommend this instructor to other students.”</td>
<td>5.80</td>
<td>6.00</td>
</tr>
</tbody>
</table>

As related to the course...

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I have a deeper understanding of the subject matter as a result of this course”</td>
<td>5.40</td>
<td>5.00</td>
</tr>
<tr>
<td>“My interest in the subject matter was stimulated by this course.”</td>
<td>4.70</td>
<td>5.00</td>
</tr>
<tr>
<td>“Instructional technology employed in this course was effective.”</td>
<td>4.58</td>
<td>4.00</td>
</tr>
<tr>
<td>“The grading standards for this course were clear.”</td>
<td>4.85</td>
<td>5.00</td>
</tr>
<tr>
<td>“I would recommend this course to other students.”</td>
<td>4.50</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Selected Comments:
- “Harini is the G.O.A.T. (greatest of all time), 10/10 would recommend. Always came prepared for class and understood the material. Gave extra work that could be done to better learn the topic. Always made sure we understood what was going on and made expectations clear.”
- “She made worksheets and reviews for us and always responded to emails very quickly. She was very approachable and open to answering any questions and re-clarifying.”
- “You were the best TA ever! Your notes were awesome and you were really good at explaining things.”
- “Gave helpful feedback on quizzes & labs, explained things clearly.”
- “Thanks for caring about how we did.”
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli
DEPARTMENT: MATH
TERM: Spring
CURRENT YEAR: 2017
COURSE #: 2374
SECTION: 011

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: ⬗
INCORRECT: ✗

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Weekly Quizzes.
Review Materials.
In class practice questions.

Did you take this course because it was required or was it an elective?

● Required
○ Required, but one of several choices
○ Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT:  
INCORRECT:  

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

You were a good TA, thanks for

Easily understand how we did your solution

for problems are appropriate

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Mathematics sucks some times. It might help to have a mathematics expert or something in lab, in addition to the TA.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional       Satisfactory       Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Hawai'i Chandramouli  TERM: Spring  CURRENT YEAR: 2017
DEPARTMENT: MATH  COURSE #: 2379  SECTION: 11

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ⬜  INCORRECT: ✓ ✗

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

She made worksheets and reviews for us and always responded to emails very quickly. She was very approachable and open to answering any questions and re-explaining.

Did you take this course because it was required or was it an elective?

- Required  ○ Required, but one of several choices  ○ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Re-write the labs, some of them don't run certain parts due to incorrect syntax.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional  Satisfactory  Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandra\text{\textunderscore}mami
TERM: Fall
CURRENT YEAR: 2017

DEPARTMENT: Math
COURSE #: 2374
SECTION: 011

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: ☐
INCORRECT: ✓ x ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

- Exceptional
- Satisfactory
- Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli  TERM: Spring  CURRENT YEAR: 2017
DEPARTMENT:  MONTH  COURSE #: 2374  SECTION: 11

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT:  ○  INCORRECT:  ✓ X  ● ●

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

The main points of each lecture were reviewed before the quiz which was very helpful (last TA for this class did not). TA knew the subject very well & could answer any question a student had.

Did you take this course because it was required or was it an elective?

○ Required
○ Required, but one of several choices
○ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

More recent practice exams (if possible).

Course Environment

How would you rate the physical environment in which you take this class, especially the Exceptional classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Kana Chikunowo
DEPARTMENT: MATH
TERM: Spring
CURRENT YEAR: 2017
COURSE #: 2251
SECTION: 11

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: ● INCORRECT: ✓ □ □

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Did you take this course because it was required or was it an elective?

● Required
□ Required, but one of several choices
□ Elective

Alternative formats of this document are available upon request by contacting oms@umn.edu or 612-626-0006.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

Correct: ☐ Incorrect: ☑ ☒ ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Always went over the topics learned in lectures during discussion, gave us worksheets to help my learning. He was always available to ask for help.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
   - [ ] Strongly Agree
   - [ ] Agree
   - [ ] Somewhat Agree
   - [ ] Somewhat Disagree
   - [ ] Disagree
   - [ ] Strongly Disagree
   - [ ] Not Applicable

2. My interest in the subject matter was stimulated by this course.
   - [ ] Strongly Agree
   - [ ] Agree
   - [ ] Somewhat Agree
   - [ ] Somewhat Disagree
   - [ ] Disagree
   - [ ] Strongly Disagree
   - [ ] Not Applicable

3. Instructional technology employed in this course was effective.
   - [ ] Strongly Agree
   - [ ] Agree
   - [ ] Somewhat Agree
   - [ ] Somewhat Disagree
   - [ ] Disagree
   - [ ] Strongly Disagree
   - [ ] Not Applicable

4. The grading standards for this course were clear.
   - [ ] Strongly Agree
   - [ ] Agree
   - [ ] Somewhat Agree
   - [ ] Somewhat Disagree
   - [ ] Disagree
   - [ ] Strongly Disagree
   - [ ] Not Applicable

5. I would recommend this course to other students.
   - [ ] Strongly Agree
   - [ ] Agree
   - [ ] Somewhat Agree
   - [ ] Somewhat Disagree
   - [ ] Disagree
   - [ ] Strongly Disagree
   - [ ] Not Applicable

6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - [ ] 0-2 hours per week
   - [ ] 3-5 hours per week
   - [ ] 6-9 hours per week
   - [ ] 10-14 hours per week
   - [ ] 15 or more hours per week

What suggestions do you have for improving the course?

Less of an emphasis on labs/from review for the midterms.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

- [ ] Exceptional
- [ ] Satisfactory
- [ ] Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Hamin
TERM: 2
CURRENT YEAR: 2017
DEPARTMENT: 
COURSE #: Z874
SECTION: 11

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ●
INCORRECT: ✓ × ●

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Gave helpful feedback on quizzes & labs, explained things clearly.

Did you take this course because it was required or was it an elective?

● Required
○ Required, but one of several choices
○ Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Finding a better program than Mathematica.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional  Satisfactory  Very Poor
Instructor Items:

Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Harini is the G.O.A.T. (greatest of all time). 10/10 would recommend. Always came prepared for class and understood the material. Gave extra work that could be done to better learn the topic. Always made sure expectations were clear.

Did you take this course because it was required or was it an elective?

☑ Required
☐ Required, but one of several choices
☐ Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.  
2. My interest in the subject matter was stimulated by this course.  
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4. The grading standards for this course were clear.  
5. I would recommend this course to other students.  
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?  
   - 0-2 hours per week  
   - 3-5 hours per week  
   - 6-9 hours per week  
   - 10-14 hours per week  
   - 15 or more hours per week

What suggestions do you have for improving the course?

Lectures could be presented better so the TA doesn't have to do it all over again.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?  

Exceptional  Satisfactory  Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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- Erase thoroughly any answer you wish to change.

Correct: •
Incorrect: ✓ X ○

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

- Doing example problems on the board is very helpful in class. Spend less time writing the entire theorem on the board, the math jargon is not helpful; or I would read the textbook.

Did you take this course because it was required or was it an elective?
- ☐ Required
- ☐ Required, but one of several choices
- ☐ Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Great job having an answer key for worksheets! but it is less helpful when they are posted 3 days later. You truly were an amazing TA who cared.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional    Satisfactory    Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harinc
DEPARTMENT: Math
TERM: Spring
CURRENT YEAR: 2017
COURSE #: 2374
SECTION: 11

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: ☐    INCORRECT: ✓  ✗  ☐  ☐  ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Properly explained almost everything learned in lecture. Vastly more understandable than the professor.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.  
2. My interest in the subject matter was stimulated by this course.  
3. Instructional technology employed in this course was effective.  
4. The grading standards for this course were clear.  
5. I would recommend this course to other students.  
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?  
   - 0-2 hours per week  
   - 3-5 hours per week  
   - 6-9 hours per week  
   - 10-14 hours per week  
   - 15 or more hours per week

What suggestions do you have for improving the course?

Just make the homework mandatory. It would help so many people.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional  Satisfactory  Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: [Handwritten]  TERM: Spring  CURRENT YEAR: 2017
DEPARTMENT: MATH  COURSE #: 2374  SECTION: 11

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.
  CORRECT: ☐  INCORRECT: ✓ ✗ ✗ ✗

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

"The practice of assigning answer sheets was highly helpful. I appreciated that there was more discussion in each class. Honestly, you did a great job and any comments on my GPA were helpful. I have enough time to study, not enough hours.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.  
2. My interest in the subject matter was stimulated by this course.  
3. Instructional technology employed in this course was effective.  
4. The grading standards for this course were clear.  
5. I would recommend this course to other students.  
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - ☐ 0-2 hours per week
   - ☐ 3-5 hours per week
   - ☐ 6-9 hours per week
   - ☐ 10-14 hours per week
   - ☐ 15 or more hours per week

What suggestions do you have for improving the course?

I noticed the second exercise on Wednesday and we started homework material in the review of homework material, and it would have been nice to have that on Thursday.

It would have been nice to have a full week's worth of material to do the homework, but the entire review of course notes on Wednesday was very helpful.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?  

Exceptional  Satisfactory  Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

**Instructor Items:**
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

Her responsibility with going over topics more as requested was very helpful.

**Did you take this course because it was required or was it an elective?**
- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections.
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4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Make homework mandatory and turned in.

That would encourage [some] more students to do it.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional  Satisfactory  Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Horini Chandramouli
DEPARTMENT: MATH
TERM: Spring
CURRENT YEAR: 2017
COURSE #: 2374
SECTION: 011

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaking through the paper.
- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ☑  INCORRECT: ✗ ☒ ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

- Helped during lab.
- Went through examples.
- Review guides.

Did you take this course because it was required or was it an elective?

☑ Required
☐ Required, but one of several choices
☐ Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.  
   - Strongly Agree  
   - Agree  
   - Somewhat Agree  
   - Somewhat Disagree  
   - Disagree  
   - Strongly Disagree  
   - Not Applicable

2. My interest in the subject matter was stimulated by this course.

3. Instructional technology employed in this course was effective.

4. The grading standards for this course were clear.

5. I would recommend this course to other students.

6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Labs should be able to be completed in time allotted.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

- Exceptional
- Satisfactory
- Very Poor
Instructor Items:
Carefully read each statement and select a response.

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

- Went through examples clearly
- Helped on labs
- Provided solutions to reviews and worksheets
- Reviewed before weekly quizzes
- Taught material more clearly than Ru-yn

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
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- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT:  
INCORRECT:  

Required  
Required, but one of several choices  
Elective

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Course Items:

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4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?  
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-8 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Mathematics can be very frustrating at times.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?  

- Exceptional
- Satisfactory
- Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini
DEPARTMENT: Math
TERM: Spring
COURSE #: 2374
CURRENT YEAR: 2017
SECTION: 11

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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CORRECT: ✗ INCORRECT: ✓

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

You were the best TA ever! Your notes were awesome and you were really good at explaining things.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
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4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Having more questions on the worksheets would be nice.

Course Environment:

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

- Exceptional
- Satisfactory
- Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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• Make no stray marks on answer sheet.
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CORRECT: ✔ INCORRECT: × ● ○

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

• I loved how you re-taught the lecture each time; I often understood your explanations better than Prof. Lai's.

• All of the worksheets and test reviews that you made were very helpful!

Did you take this course because it was required or was it an elective?

☑ Required
☐ Required, but one of several choices
☐ Elective

Alternative formats of this document are available upon request by contacting oms@umn.edu or 612-626-0006.
Course Items:

Course Item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course. [ ] Strongly Agree [ ] Agree [ ] Somewhat Agree [ ] Somewhat Disagree [ ] Disagree [ ] Strongly Disagree [ ] Not Applicable

2. My interest in the subject matter was stimulated by this course. [ ] Strongly Agree [ ] Agree [ ] Somewhat Agree [ ] Somewhat Disagree [ ] Disagree [ ] Strongly Disagree [ ] Not Applicable

3. Instructional technology employed in this course was effective. [ ] Strongly Agree [ ] Agree [ ] Somewhat Agree [ ] Somewhat Disagree [ ] Disagree [ ] Strongly Disagree [ ] Not Applicable

4. The grading standards for this course were clear. [ ] Strongly Agree [ ] Agree [ ] Somewhat Agree [ ] Somewhat Disagree [ ] Disagree [ ] Strongly Disagree [ ] Not Applicable

5. I would recommend this course to other students. [ ] Strongly Agree [ ] Agree [ ] Somewhat Agree [ ] Somewhat Disagree [ ] Disagree [ ] Strongly Disagree [ ] Not Applicable

6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course? [ ] 0-2 hours per week [ ] 3-5 hours per week [ ] 6-9 hours per week [ ] 10-14 hours per week [ ] 15 or more hours per week

What suggestions do you have for improving the course?

Although others may not agree with me, I think that the 1st hour of lab should be monitors off. It is very helpful to have everyone focused and not distracted by the computers.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate? [ ] Exceptional [ ] Satisfactory [ ] Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Hariri C.  TERM: Spring  CURRENT YEAR: 2017
DEPARTMENT: Math  COURSE #: 2374  SECTION: 011

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ●  INCORRECT: ✓ □ □

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

- Reviewed the lecture material to help answer any questions and solidify my learning.
- Made challenging worksheets and reviews, which helped me prepare for tests and quizzes.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

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6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

* Send out rubrics for all the Mathematic labs

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor

1 2 3 4 5 6 7 8 9
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Horwitz, C.  TERM: SPRING  CURRENT YEAR: 2017
DEPARTMENT: MATH  COURSE #: 2374  SECTION: 011

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: ☐  INCORRECT: ✓ × ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Somewhat Agree</th>
<th>Somewhat Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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</table>

What did the instructor do that most helped your learning?

Provided feedback on labs/quizzes, provided review material, and gave specific grading requirements for labs

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

I mean, I'm not good at multivariable, so there's lots of things I could say, but they'd be opinionated.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandranath 
DEPARTMENT: MATH 
TERM: Spring 
CURRENT YEAR: 2017 
COURSE #: 2354 
SECTION: 11

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ✓ INCORRECT: ✗

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Always asked how the students wanted to structure the class so it fit our needs best. She was very helpful if anyone asked questions.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate? Exceptional Satisfactory Very Poor
Below are the responses to evaluations from courses for which I was an instructor at the University of Minnesota. Full evaluations begin on the next page. Students are given each of the following statements for which they must respond on a scale of 1 to 6:
1 being “Strongly Disagree” and 6 being “Strongly Agree”

MATH 1271: Calculus 2, Summer 2017

As related to the instructor...

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<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Median</th>
</tr>
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<tr>
<td>“The instructor was well prepared for class.”</td>
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<td>6.00</td>
</tr>
<tr>
<td>“The instructor presented the subject matter clearly.”</td>
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<td>6.00</td>
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<tr>
<td>“The instructor provided feedback intended to improve my course performance.”</td>
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<td>5.65</td>
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<td>6.00</td>
</tr>
</tbody>
</table>

As related to the course...

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<td>“The grading standards for this course were clear.”</td>
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</tr>
<tr>
<td>“I would recommend this course to other students.”</td>
<td>5.06</td>
<td>5.00</td>
</tr>
</tbody>
</table>

Selected Comments:

- “Harini is one of the best math TAs I’ve ever had. She explains material clearly in multiple ways (geometrically, algebraically, verbally, etc) to help students with different learning styles and to cement the concepts for everyone...She is very patient in explaining things during group work time and sometimes offers hints that are more helpful than a full explanation because we continue to solve for ourselves. Of course, if the hint still leaves us mystified, she is very good at walking us through everything we need to understand. Thank you!!”

- “She was extremely attentive during worksheet time and was always willing to re-explain concepts students were struggling with. She was very approachable and really cared about helping students succeed.”

- “Harini is the best math instructor that I have ever had. She has the most organized and structured notes and is really helpful with talking out problems but still letting me figure it out on my own.”

- “Great setup of the class as lecture & then worksheet along w/ a great, engaged professor made for an enjoyable calculus class in which I learned a lot.”

- “Harini was extremely approachable and down to earth. Her lectures were methodical and allowed for a clear understanding of the topic on hand. ... She encouraged a relaxed classroom atmosphere that encouraged learning.”
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli  TERM: Summer  CURRENT YEAR: 2017
DEPARTMENT: MATH  COURSE #: 1234  SECTION: 02

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT:  INCORRECT:  ✓  ×  ☐  ☑

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Harini is one of the best math TAs I've ever had. She explains material clearly in multiple ways (geometrically, algebraically, verbally, etc.) to help students with different learning styles and to cement the concepts for everyone. Very important!! —She writes clearly on the board — thank goodness!

She is very patient in explaining things during group work time and sometimes offers hints that are more helpful than a full explanation because we continue to solve for ourselves. Of course, if the hint still leaves us mystified, she is very good at walking us through everything we need to understand. Thank you!!

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

Alternative formats of this document are available upon request by contacting oms@umn.edu or 612-626-0006.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

The section on how to choose convergence/divergence tests was really important for our success on the midterm (and presumably will be for the final) but we played Jeopardy instead of having a lecture on how to identify types of series. This gave more confidence to people who already understood and left those of us who were still struggling very disheartened. The game was only fun for people who were already doing well.

A similar section (8.5? 9.5?) about strategies for integration would have been helpful on the first exam but was not included in the homework/lecture material. I did the section on my own and it was very helpful.

---

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

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</table>
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli
DEPARTMENT: MATH
TERM: Summer
COURSE #: 1272
SECTION: 002
CURRENT YEAR: 2017

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT:  
INCORRECT:  ✓ □

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

![Instructor Items:]

What did the instructor do that most helped your learning?

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Show the grades of me on the website, let me see my GRADES whenever I want!

PLZ!
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harin Chomrathaikul
TERM: Summer
CURRENT YEAR: 2027
DEPARTMENT: Math
COURSE #: 127
SECTION: 002

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

**MARKING INSTRUCTIONS**

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

**CORRECT:** ○  **INCORRECT:** ✗ ✗ ✗ ✗

**Instructor Items:**
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

good lecture

Did you take this course because it was required or was it an elective?

- [ ] Required
- [ ] Required, but one of several choices
- [ ] Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
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   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

less group work

more lecture

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional  Satisfactory  Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Horangi Chandramouli  TERM: Summer  CURRENT YEAR: 2012
DEPARTMENT: MATH  COURSE #: 1272  SECTION: 002

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

CORRECT: ✔️  INCORRECT: ✗ ☐ ☐ ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

<table>
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What did the instructor do that most helped your learning?

writes clearly while separating parts for better understanding.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
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   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Provide an actual worked problem rather than just give an answer.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor

1 2 3 4 5 6
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli
DEPARTMENT: MATH
TERM: Summer
COURSE #: 1272
CURRENT YEAR: 2017
SECTION: 0021

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

**MARKING INSTRUCTIONS**
- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

**CORRECT:** ☐  INCORRECT: ✓ ✗ ○  ✧

**Instructor Items:**
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Was helpful when needed but made us think for ourselves and made us work with others.
She was also funny.

Did you take this course because it was required or was it an elective?
- ☐ Required
- ○ Required, but one of several choices
- ○ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.  
2. My interest in the subject matter was stimulated by this course.  
3. Instructional technology employed in this course was effective.  
4. The grading standards for this course were clear.  
5. I would recommend this course to other students.  
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week  
   - 3-5 hours per week  
   - 6-9 hours per week  
   - 10-14 hours per week  
   - 15 or more hours per week

What suggestions do you have for improving the course?

I guess that because it's a summer class it was more intensive, but I would slow down with the pacing. There is too much information to process in one class. Maybe making the course 10 weeks long instead of 8 would help.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional  Satisfactory  Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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CORRECT: ☐  INCORRECT: ✓ ✗ ☐ ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Was open to questions; challenged students instead of giving them the answers; presented topics systematically and clearly.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

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   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Have a longer period between teaching of last major topic and the final. Clearer grading standards.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Chandramouli
DEPARTMENT: MATH
TERM: Summer
COURSE #: 122
CURRENT YEAR: 2017
SECTION: 2

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
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- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: o INCORRECT: ✓ x o *

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Clear hand writing, well organized class material.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

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1. I have a deeper understanding of the subject matter as a result of this course.
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6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

It seems many of classmates are enjoyed their group work, however, personally, it makes me uncomfortable.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

<table>
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<th>Satisfactory</th>
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University of Minnesota Student Rating of Teaching

INSTRUCTOR: _________________________ TERM: Summer 2017 CURRENT YEAR: 2017
DEPARTMENT: ____________ COURSE #: 2422 SECTION: ____________

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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CORRECT: ✓ INCORRECT: ✗

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

The lectures with many example problems helped me most.

Did you take this course because it was required or was it an elective?

☑ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
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6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Spend more time on lectures rather than group work.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

<table>
<thead>
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MARKING INSTRUCTIONS

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- Erase thoroughly any answer you wish to change.

CORRECT:  o  INCORRECT:  x  o  o

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Harini was extremely approachable and down to earth. Her lectures were methodical and allowed for a clear understanding of the topic on hand, and never posed as a roadblock or hindrance to my ability to learn the topic. She encouraged a relaxed classroom atmosphere that encouraged learning. There were a few times when she broke away from her notes for another example, and her teaching became just a bit more dynamic, which would be the only improvement to her excellent lectures.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Office of Measurement Services
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

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   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

A few more days to study for the final.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

- Exceptional
- Satisfactory
- Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandran
DEPARTMENT: Math
TERM: Summer
CURRENT YEAR: 2017
COURSE #: 1272
SECTION: 

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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CORRECT: ☐ INCORRECT: ∨ X ☓ ☒

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Did you take this course because it was required or was it an elective?
☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

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   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Use moodle so we would be clear about our exam scores.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

- Exceptional
- Satisfactory
- Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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CORRECT:   INCORRECT:  ✓   ✗   ◐   ◐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

She had well prepared notes that both covered the class content and provided examples that allowed me to see how the work was applied before I got to do them myself. Sometimes went a little fast, which made me once a bit when I was taking notes, however, that is understandable due to the time constraints. She was extremely helpful during the worksheet sessions and helped me grasp the material on the same day that it was taught, greatly advancing my learning process. The only very minor critique is that sometimes she was very definition driven, but in the long run, that did not hinder my performance at all.

Great setup of the class as lecture based worksheets along with a great, engaged professor made for an enjoyable calculus class in which I learned a lot.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

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   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course is extremely well setup w/ lecture & problem solving sessions during our class period. One thing I would try to improve is to shift to a clear percentage based grading system (maybe W a curve). The grading is very unclear in that I do not know how well I am doing in the class until the very end, which kind of makes the class a bit frustrating at times. Other than the grading, the class is very good at its current state.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional | Satisfactory | Very Poor
---|---|---
1 | 2 | 3 | 4 | 5 | 6 | 7
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Haizhi Qian
TERM: Summer
CURRENT YEAR: 2017
DEPARTMENT: Math
COURSE #: 12-72
SECTION: 02

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ☐
INCORRECT: ✓ × ☐ ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Explained sections very well & com. work w/ why it is important. Easy to follow even during difficult sections. Helped when asked questions, especially when I was struggling w/ concepts & problems.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

Alternative formats of this document are available upon request by contacting cms@umn.edu or 612-626-0006.

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?  
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Do not require the course in comp sci next.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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- Erase thoroughly any answer you wish to change.

CORRECT: ○
INCORRECT: □ X ○ ✗

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Harrini is the best math instructor that I have ever had. She has the most organized and structured notes and is really helpful with talking out problems but still letting me figure it out on my own. She's even come into her office outside of her hours to help me since I couldn't get to any of her regularly scheduled ones.

I wish that I could have Harrini for all of my classes, because she teaches in the most helpful way to accelerate my learning.

Did you take this course because it was required or was it an elective?

Required
Required, but one of several choices
Elective

Alternative formats of this document are available upon request by contacting oms@umn.edu or 612-626-0006.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

It would be helpful to be able to follow my current grade standing in the course throughout the semester. Not knowing where I stand going into the final stresses me out and makes me feel as though I won't perform to my best with worrying about it.

Also, I know it's a summer course, but there wasn't enough time to get prepared for the final with the quick run day before.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli
DEPARTMENT: Math
TERM: Summer
COURSE #: 12-72
SECTION: 002
CURRENT YEAR: 2017

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

CORRECT: ○  INCORRECT: ✓ × □ *
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

The instructor gave clear explanations on the subject as well as hints on how to do problems effectively.

Did you take this course because it was required or was it an elective?

○ Required
○ Required, but one of several choices
○ Elective

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Office of Measurement Services
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Face of some lectures were said quick.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: □  INCORRECT: ✓ X □

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

She was extremely attentive during worksheet time and was always willing to re-explain concepts students were struggling with. She was very approachable and really cared about helping students succeed.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

Alternative formats of this document are available upon request by contacting oms@umn.edu or 612-626-0006.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

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3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Grading on tests was a little harsh, by it is a challenging course. I think worksheet time may be more productive if students work on the subject matter from the previous day's lesson. I would have liked a day to get more familiar with the concepts before attempting the worksheet.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional  Satisfactory  Very Poor

[Scale: 1 = Strongly Agree, 5 = Agree, 3 = Somewhat Agree, 1 = Disagree, 0 = Strongly Disagree, Not Applicable]
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Hanni Chandramouli
TERM: Summer
COURSE #: 1272
SECTION: 002

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: □ INCORRECT: ✓ X ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

- Came to class with an enthusiastic attitude and obviously enjoys what she’s teaching; made class entertaining
- Is willing to re-explain information if it didn’t make sense the first time
- Handwrote out lectures on board, not a slideshow

Did you take this course because it was required or was it an elective?

☑ Required
☐ Required, but one of several choices
☐ Elective

Alternative formats of this document are available upon request by contacting oms@umn.edu or 612-626-0006.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.  
2. My interest in the subject matter was stimulated by this course.  
3. Instructional technology employed in this course was effective.  
4. The grading standards for this course were clear.  
5. I would recommend this course to other students.  
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Maybe slow down during lecture a bit?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Varini Chandramouli
DEPARTMENT: Math
TERM: Summer
CURRENT YEAR: 2017
COURSE #: 1272
SECTION: 02

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

Correct: ☐ Incorrect: ✗ ☑ ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?
Extremely well prepared and presents exceptionally well.

Did you take this course because it was required or was it an elective?
☐ Required
☐ Required, but one of several choices
☐ Elective

Alternative formats of this document are available upon request by contacting oms@umn.edu or 612-626-0006.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
   - Strongly Agree
   - Somewhat Agree
   - Somewhat Disagree
   - Strongly Disagree
   - Not Applicable

2. My interest in the subject matter was stimulated by this course.
   - Strongly Agree
   - Somewhat Agree
   - Somewhat Disagree
   - Strongly Disagree
   - Not Applicable

3. Instructional technology employed in this course was effective.
   - Strongly Agree
   - Somewhat Agree
   - Somewhat Disagree
   - Strongly Disagree
   - Not Applicable

4. The grading standards for this course were clear.
   - Strongly Agree
   - Somewhat Agree
   - Somewhat Disagree
   - Strongly Disagree
   - Not Applicable

5. I would recommend this course to other students.
   - Strongly Agree
   - Somewhat Agree
   - Somewhat Disagree
   - Strongly Disagree
   - Not Applicable

6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Some times, the last section covered before an exam is particularly difficult, and it feels there is not enough time between the difficult subject matter and exam to fully master it.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

- Exceptional
- Satisfactory
- Vary Poor
Below are the responses to evaluations from courses for which I was an instructor at the University of Minnesota. Full evaluations begin on the next page. Students are given each of the following statements for which they much respond on a scale of 1 to 6:

1 being “Strongly Disagree” and 6 being “Strongly Agree”

MATH 1271: Calculus 1, Fall 2018

As related to the instructor...

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>“The instructor was well prepared for class.”</td>
<td>5.30</td>
<td>6.00</td>
</tr>
<tr>
<td>“The instructor presented the subject matter clearly.”</td>
<td>5.29</td>
<td>6.00</td>
</tr>
<tr>
<td>“The instructor provided feedback intended to improve my course performance.”</td>
<td>5.03</td>
<td>5.00</td>
</tr>
<tr>
<td>“The instructor treated me with respect.”</td>
<td>5.64</td>
<td>6.00</td>
</tr>
<tr>
<td>“I would recommend this instructor to other students.”</td>
<td>5.14</td>
<td>6.00</td>
</tr>
</tbody>
</table>

As related to the course...

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I have a deeper understanding of the subject matter as a result of this course”</td>
<td>5.11</td>
<td>5.00</td>
</tr>
<tr>
<td>“My interest in the subject matter was stimulated by this course.”</td>
<td>4.15</td>
<td>4.00</td>
</tr>
<tr>
<td>“Instructional technology employed in this course was effective.”</td>
<td>5.18</td>
<td>5.00</td>
</tr>
<tr>
<td>“The grading standards for this course were clear.”</td>
<td>4.05</td>
<td>4.00</td>
</tr>
<tr>
<td>“I would recommend this course to other students.”</td>
<td>4.49</td>
<td>5.00</td>
</tr>
</tbody>
</table>

Selected Comments:

- “She conceptualized the math problems with drawings and graphs and explained how to think about the different terms with questions and written explanations. Her step by step problem-solving and slides made it easier to follow the course material. I also appreciated that she would describe what questions to ask to move from one step to the next.”

- “Every time I went to class I felt like I learned something.”

- “The slides were absolutely incredible. A great mix of that & writing on the whiteboard helped a lot.”

- “I feel like Harini really cared about me succeeding in the class.”

- “The instructor always presented topics very clearly, and she was enthusiastic throughout her lectures.”
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandranandi
TERM: Fall
CURRENT YEAR: 2018
DEPARTMENT: MATH
COURSE #: 1271
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

CORRECT: •  INCORRECT: ✓ ✗ = 

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Posting slides on Moodle after each class so if I ever have any confusion about any example in class I can always refer back to slides.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Stop using Moodle, Canvas is the future!

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harri Chandrajurst TERM: Fall CURRENT YEAR: 2018
DEPARTMENT: Math COURSE #: 1271 SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ☑️ INCORRECT: ✗ ✗ ✗ ✗ ✗

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

The instructor provided me with a feeling of relief that what I was doing in the class was on par with what was expected.

Did you take this course because it was required or was it an elective?

- ☑️ Required
- ☐ Required, but one of several choices
- ☐ Elective

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Course Items:

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1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-8 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Teach faster and use harder examples during lecture. Often times the lecture examples "worked out nicely" and this was contrary to the test problems.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

She explained things in multiple ways, and moved slowly and logically.

Did you take this course because it was required or was it an elective?

Required
Required, but one of several choices
Elective

Alternative formats of this document are available upon request by contacting oms@umn.edu or 612-626-0006.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
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   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Make the grading standards clearer.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional: 1
Satisfactory: 2
Very Poor: 3
### University of Minnesota Student Rating of Teaching

**INSTRUCTOR:** Harini Chandramouli  
**TERM:** Fall  
**CURRENT YEAR:** 2018  
**DEPARTMENT:** Math  
**COURSE #:** 1271  
**SECTION:** 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

### MARKING INSTRUCTIONS

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<table>
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<th>INCORRECT:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
<td>×</td>
</tr>
</tbody>
</table>

### Instructor Items:

Carefully read each statement and select a response.

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

### What did the instructor do that most helped your learning?

I feel like Harini really cared about me succeeding in the class. She helped me in office hours as well as assisting me in finding a tutor. Her schedule flexibility and clarifications in times of confusion were very helpful.

---

**Did you take this course because it was required or was it an elective?**

- [ ] Required
- [ ] Required, but one of several choices
- [ ] Elective

---

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
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   - 0-2 hours per week
   - 3-5 hours per week
   - 6-8 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

I don't believe this class is set up well. Harini was probably the best instructor for the class, but the way this course is organized by the math department needs some serious work. A midterm and final within 2 weeks of each other, and 50% is considered average should not be a method in learning. This is my second time taking this class.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli
TERM: Fall 2018
CURRENT YEAR: 
DEPARTMENT: 
COURSE #: 1271
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ✓  INCORRECT: ✗  ☒

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

Strongly Agree
Somewhat Agree
Somewhat Disagree
Strongly Disagree

What did the instructor do that most helped your learning?

Her studying materials were very helpful as were her presentations.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

The grading system is quite odd to me. If there was any way to simulate what grade a student could have would be helpful. It's annoying sometimes having no idea what grade you have.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate, and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli  TERM: Fall  CURRENT YEAR: 2018
DEPARTMENT: math  COURSE #: math 1271  SECTION: 610

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT:  ✗  INCORRECT:  ✓  ❌  ❔

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Go through examples, post reviews

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Office of Measurement Services
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

**MARKING INSTRUCTIONS**

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- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

**CORRECT:** ☐
**INCORRECT:** ✓ x ☐

**Instructor Items:**
Carefully read each statement and select a response.

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

![Rating scale with options from Strongly Agree to Strongly Disagree]

**What did the instructor do that most helped your learning?**

*Slideshows made it easier to follow along.*

**Did you take this course because it was required or was it an elective?**

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

---

Course Environment

We would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

The short explanations were very helpful. It wasn't as overwhelming as the book and got straight to the point on what was needed to be known.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.  
2. My interest in the subject matter was stimulated by this course.  
3. Instructional technology employed in this course was effective.  
4. The grading standards for this course were clear.  
5. I would recommend this course to other students.  
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?  
   - 0-2 hours per week  
   - 3-5 hours per week  
   - 6-9 hours per week  
   - 10-14 hours per week  
   - 15 or more hours per week

What suggestions do you have for improving the course?

I don't really have anything as I thought the course was taught well.

Course Environment:

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?  

<table>
<thead>
<tr>
<th>Exceptional</th>
<th>Satisfactory</th>
<th>Very Poor</th>
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</table>
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramoorti
TERM: Fall
CURRENT YEAR: 2018
DEPARTMENT: Math
COURSE #: 1271
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ●
INCORRECT: ✓ X ●

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

- Lectures and slides
- Example problems
- Review guides w/ answer keys for tests

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Let make the grading scale less exam based.
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

**MARKING INSTRUCTIONS**

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

**Correct:** ●  **Incorrect:** ✓ ❌ ❌ ❌

**Instructor Items:**

Carefully read each statement and select a response.

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

---

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the room facilities, including your ability to see, hear, concentrate and participate?

Exceptional | Satisfactory | Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

**MARKING INSTRUCTIONS**

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+ Do not use pens with ink that soaks through the paper.
+ Erase thoroughly any answer you wish to change.

**CORRECT:** •  •  •  •

**INCORRECT:** ✓  x  •

**Instructor Items:**

Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

" Went through all problems clearly and clearly was able to red."

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

[Handwritten notes:]

Write about laminating.

Smart learning commons, etc.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate, and participate?

Exceptional Satisfactory Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Hacini Chandramouli  TERM: Fall 2018  CURRENT YEAR: 2018
DEPARTMENT: Mathematics  COURSE #: MATH 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS
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- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT:  •  INCORRECT:  ✓ X ✓ ✓

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

The instructor always presented topics very clearly, and she was enthusiastic throughout her lectures.

Did you take this course because it was required or was it an elective?
- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-8 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Nothing, I really enjoyed the course.
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

**MARKING INSTRUCTIONS**

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- Erase thoroughly any answer you wish to change.

**CORRECT:** ☐  ☐  ☐  ☐  ☐

**INCORRECT:** ✓ X ☐ ☐

**Instructor Items:**
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

Was very visual in her teaching style which is a helpful way to learn this material.

**Did you take this course because it was required or was it an elective?**

- ☐ Required
- ☐ Required, but one of several choices
- ☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

N/A

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional  Satisfactory  Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Hani Charakian
TERM: 2021
CURRENT YEAR: 2021
DEPARTMENT: Math
COURSE #: 1271
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS
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- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: □  INCORRECT: ✓ × ☐ ☒

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

The instructor was able to make sure that we understood the material by asking if we had questions. She didn't rush through the lesson.

Did you take this course because it was required or was it an elective?
- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

---

**Course Environment**

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

<table>
<thead>
<tr>
<th>Exceptional</th>
<th>Satisfactory</th>
<th>Very Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramoorthy  TERM:  CURRENT YEAR: 2018
DEPARTMENT:  COURSE #: Math 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

CORRECT: ✈️ INCORRECT: ✗ ✕ ✈️

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?
Provided good examples online for exam practice, and also assigned the necessary homework problems.

Did you take this course because it was required or was it an elective?
- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-6 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Go through the examples more clear and concise. The examples should only last a maximum for 10 minutes, that way we can go through easy, medium, and difficult examples.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramoli  TERM: Fall  CURRENT YEAR: 2018
DEPARTMENT: math  COURSE #: 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Erase thoroughly any answer you wish to change.

- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ✔  INCORRECT: ✗ ✗

Instructor Items:
Carefully read each statement and select a response.

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

She sometimes would have one lesson go over 2 days.

Did you take this course because it was required or was it an elective?

✔ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - [ ] 0-2 hours per week
   - [x] 3-5 hours per week
   - [ ] 6-9 hours per week
   - [ ] 10-14 hours per week
   - [ ] 15 or more hours per week

What suggestions do you have for improving the course?

More opportunities for outside help.

Course Environment

Would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

CORRECT:  ○
INCORRECT:  ✓ x  ◐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Clear explanations during examples, relating the problem back to the slides to see where the ideas came from.

Did you take this course because it was required or was it an elective?

○ Required
✓ Required, but one of several choices
○ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

more study materials given

Course Environment

How would you rate the physical environment in which you take this class, especially the room facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Clearly explained course topics

Did you take this course because it was required or was it an elective?

Required
Required, but one of several choices
Elective

Alternative formats of this document are available upon request by contacting oms@umn.edu or 612-626-0006.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

Would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional  Satisfactory  Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

**MARKING INSTRUCTIONS**
- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

**CORRECT:**

**INCORRECT:**
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

**Instructor Items:**
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

**Did you take this course because it was required or was it an elective?**
- Required
- Required, but one of several choices
- Elective

Alternative formats of this document are available upon request by contacting oma@umn.edu or 612-626-0006.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. What approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

Would you rate the physical environment in which you take this class, especially the room facilities, including your ability to see, hear, concentrate and participate?
Instructor Items:
Carefully read each statement and select a response.

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Using slides was helpful
for graphs & when class time ran short.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
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   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?
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- Erase thoroughly any answer you wish to change.

**CORRECT:** 
**INCORRECT:** ✓ X ○ ●

**Instructor Items:**
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

Gave good examples

Did you take this course because it was required or was it an elective?
- ○ Required
- ○ Required, but one of several choices
- ○ Elective

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Course Items:

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   - 15 or more hours per week

What suggestions do you have for improving the course?
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- Erase thoroughly any answer you wish to change.

**CORRECT:** ☐
**INCORRECT:** ✓ ☑ ☒

**Instructor Items:**
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

Replying to emails was a good thing. I liked that she communicated in a timely manner and answered my questions clearly.

**Did you take this course because it was required or was it an elective?**
○ Required
○ Required, but one of several choices
◆ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

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<thead>
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<th>Statement</th>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
<th>Somewhat Disagree</th>
<th>Strongly Disagree</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have a deeper understanding of the subject matter as a result of this course.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. My interest in the subject matter was stimulated by this course.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Instructional technology employed in this course was effective.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. The grading standards for this course were clear.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. I would recommend this course to other students.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

- 0-2 hours per week
- 3-5 hours per week
- 6-9 hours per week
- 10-14 hours per week
- 15 or more hours per week

What suggestions do you have for improving the course?

I think it would've been helpful to post up slides before class, if the students are focused on writing down #s & graphs, they can't concentrate on the actual steps that are happening at the moment, thus will get lost easily.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?  

<table>
<thead>
<tr>
<th>Rating</th>
<th>Exceptional</th>
<th>Satisfactory</th>
<th>Very Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chordopoulou  TERM: fall  CURRENT YEAR: 2018
DEPARTMENT: MATH  COURSE #: 12.71  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT:  □  INCORRECT:  ✓  ◯  ★

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

The instructor did examples during class that were similar to the ones on the homework. This made it possible to study and understand.

The powerpoints were very helpful to follow along to. They had a good amount of words, so the instructor was not simply just reading from the slide.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Maybe do a review for the weekly quiz.
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli            TERM: Fall            CURRENT YEAR: 2016
DEPARTMENT: MATH                         COURSE #: Math 1271    SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

CORRECT: ●           INCORRECT: ✓ □ ⊗ ●

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

variety of problems and practice in order to understand the material graphically and mathematically.

Did you take this course because it was required or was it an elective?
- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

often didn't have enough time for explanation of problems, some notes were a bit too easy compared to the homework problems.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: HARINI CHANDRAMOOLI
TERM: FALL
CURRENT YEAR: 2018
DEPARTMENT: COURSE #: MATH 1271
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ●
INCORRECT: ✓ x ☐ ◯

Instructor Items:
Carefully read each statement and select a response:

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?
- The instructor told me where I usually made mistakes and what to do to avoid them.
- Tips for exams.
- Suggestions for practice.

Did you take this course because it was required or was it an elective?
- Required
- Required, but one of several choices
- Elective

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Office of Measurement Services
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - [ ] 0-2 hours per week
   - [ ] 3-5 hours per week
   - [ ] 6-9 hours per week
   - [ ] 10-14 hours per week
   - [ ] 15 or more hours per week

What suggestions do you have for improving the course?

[Handwritten]: Having sample final exams made available for practice.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

[Handwritten] - Exceptional, Satisfactory, Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harley Chardonnal  TERM: Fall  CURRENT YEAR: 2018
DEPARTMENT: MATH  COURSE #: 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ✔  INCORRECT: ✗  ❌

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Going through examples in depth was very helpful.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.

6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Tests were very hard compared to examples done in class.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

- Exceptional
- Satisfactory
- Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: [Handwritten: Hwang, Condron]
TERM: Fall
CURRENT YEAR: 2018
DEPARTMENT: [Handwritten: Music]
COURSE #: [Handwritten: 216]
SECTION: 0102

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS
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- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: O  INCORRECT: ✓ X ☒

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Table Teach every problem in an easy and slow way.

Did you take this course because it was required or was it an elective?
☑ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

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1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?


Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli
TERM: Math 128
COURSE #: 010
SECTION: 010
CURRENT YEAR: 2018 Fall

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: 
INCORRECT: ✓

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

She slowed down the pace and explained the concepts quite clearly.
Her power point slides are great and easy to follow.
She did problems during class with us so that we understand how to solve a problem from beginning to end.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

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1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Too early!!

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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- Erase thoroughly any answer you wish to change.

**CORRECT:** ☐  **INCORRECT:** ✓ ✗ ❌ 🎨

**Instructor Items:**
Carefully read each statement and select a response.

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

- She talks very clear and in an moderate pace which make me understand a lot better.
### Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

| 1. I have a deeper understanding of the subject matter as a result of this course. | Strongly Agree | Somewhat Agree | Somewhat Disagree | Strongly Disagree | Not Applicable |
| 2. My interest in the subject matter was stimulated by this course. | | | | | |
| 3. Instructional technology employed in this course was effective. | | | | | |
| 4. The grading standards for this course were clear. | | | | | |
| 5. I would recommend this course to other students. | | | | | |

6. Approximate how many hours per week did you spend working on homework, readings, and projects for this course?
   - [ ] 0-2 hours per week
   - [ ] 3-5 hours per week
   - [ ] 6-9 hours per week
   - [ ] 10-14 hours per week
   - [ ] 15 or more hours per week

### What suggestions do you have for improving the course?

---

### Course Environment

By would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

<table>
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<tr>
<td>1</td>
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<tr>
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<td>5</td>
<td>4</td>
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- Make solid marks that fill the response completely.

**CORRECT:** ○

**INCORRECT:** ✓ × ☉ ☞

**Instructor Items:**

Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

- Explains problems clearly
- Very caring, can tell it's important to her

**Did you take this course because it was required or was it an elective?**

- Required
- Required, but one of several choices
- Elective

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Course Items:

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   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

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University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli
DEPARTMENT: Math
TERM: 1
CURRENT YEAR: 2018
DEPARTMENT #: 1271
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

CORRECT: O
INCORRECT: ✓ × ☐ ☒

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?
she went step by step through problems at a good pace. Made some jokes, was a nice person.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli  TERM: Fall  CURRENT YEAR: 2019
DEPARTMENT: Math  COURSE #: 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT:  INCORRECT: ✓ ✗ ⬤ ⬦ ⬨

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

 spends a couple of days to go through so didn't have to make sure i understood

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

Would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Hadi Chamoroubi
TERM: Fall
CURRENT YEAR: 2014
DEPARTMENT: MATH
COURSE #: 12.71
SECTION: 10

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: ●
INCORRECT: ✓ × ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Very good at explaining.

Did you take this course because it was required or was it an elective?
☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

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2. My interest in the subject matter was stimulated by this course.  
3. Instructional technology employed in this course was effective.  
4. The grading standards for this course were clear.  
5. I would recommend this course to other students.  
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

I wish that my (co) could go faster, but that's impossible.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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- Erase thoroughly any answer you wish to change.

CORRECT: ☐  INCORRECT: ✓ × ❌

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

The powerpoints with examples and worked out solutions really helpful! plus very organized

Did you take this course because it was required or was it an elective?
☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

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   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

What suggestions do you have for improving the course?


Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
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**INSTRUCTOR ITEMS:**

Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

- provide many examples
- provide answers and help

Did you take this course because it was required or was it an elective?
- Required
- Required, but one of several choices
- Elective

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Course Items:

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   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

- assist students more during discussions

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
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**Instructor Items:**
Carefully read each statement and select a response.

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

Thoroughly worked through examples in a clear way.

Did you take this course because it was required or was it an elective?
- Required
- Required, but one of several choices
- Elective

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Course Items:

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   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

more examples!

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR:  
DEPARTMENT:  
TERM:  
CURRENT YEAR:  
COURSE #:  
SECTION:  

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CORRECT: □  INCORRECT: ✓ × ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

- The slide examples and problem problems were very clear and helpful.

Did you take this course because it was required or was it an elective?

☐ Required  ☐ Required, but one of several choices  ☐ Elective

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Course Items:

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   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

- Explaining the grading criteria could help.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramalli
DEPARTMENT: Math
TERM: Fall 2018
COURSE #: 1271
SECTION: 010
CURRENT YEAR: 2018

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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- Make solid marks that fill the response completely.

CORRECT: ○  INCORRECT: ✓ ✗  ❌

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?
Presented the topics in different ways to help us understand the material

Did you take this course because it was required or was it an elective?
- [ ] Required
- [ ] Required, but one of several choices
- [ ] Elective

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Course Items:

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1. I have a deeper understanding of the subject matter as a result of this course.
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3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - [ ] 0-2 hours per week
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   - [ ] 6-9 hours per week
   - [ ] 10-14 hours per week
   - [ ] 15 or more hours per week

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What suggestions do you have for improving the course?

Have answers posted for the discussion worksheets

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

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University of Minnesota Student Rating of Teaching

INSTRUCTOR: HARINI CHANDRAMOULI
DEPARTMENT: MATH
TERM: 12-71
CURRENT YEAR:
COURSE #: 12-71
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ●
INCORRECT: ✓ X ○ ●

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?
- Review packets
- Posting lecture on Noodle

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

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1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Having answers to the worksheet

course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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**CORRECT:** • **INCORRECT:** ✓ ◯ ◯ ◯

**Instructor Items:**
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

The slides and notes that I could view anytime helped
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
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   - 0-2 hours per week
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   - 15 or more hours per week

What suggestions do you have for improving the course?

None

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Chandranarayani
TERM: Fall
CURRENT YEAR: 2018
DEPARTMENT: Math
COURSE #: 12.71
SECTION: 010

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Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

responds to emails and questions.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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   - 15 or more hours per week

What suggestions do you have for improving the course?

I wish the grading was more clear.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Chandramouli  TERM: Fall  CURRENT YEAR: 2018
DEPARTMENT: Math  COURSE #: Math 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT:  INCORRECT: ✓ ✗

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

I liked the guides and review guides a lot, but the homework was a bit much and a bit intimidating so I didn’t do it often.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.

2. My interest in the subject matter was stimulated by this course.

3. Instructional technology employed in this course was effective.

4. The grading standards for this course were clear.

5. I would recommend this course to other students.

6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

maybe, less homework would be nice or at least making the homework due so I felt forced to do it versus it being my choice? I feel like I would've done it in that case

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: ハリ  Melania DEPARTMENT: 
TERM: Fall CURRENT YEAR: 2018 COURSE #: MA711 SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS
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• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: ○ INCORRECT: ✓ ×  ±

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

[Space for answer]

Did you take this course because it was required or was it an elective?
○ Required
○ Required, but one of several choices
○ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR:  
TERM:  
CURRENT YEAR:  
DEPARTMENT:  
COURSE #:  
SECTION:  

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

To give a bunch of problems and reviews

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
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5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-8 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

To do examples and go through more different problems

Course Environment

Would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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CORRECT: ●

INCORRECT: ✓ ✗ § □

Instructor Items:
Carefully read each statement and select a response.

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Did you take this course because it was required or was it an elective?

○ Required
○ Required, but one of several choices
○ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.  
2. My interest in the subject matter was stimulated by this course.  
3. Instructional technology employed in this course was effective.  
4. The grading standards for this course were clear.  
5. I would recommend this course to other students.  
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?  
   - 0-2 hours per week  
   - 3-5 hours per week  
   - 6-9 hours per week  
   - 10-14 hours per week  
   - 15 or more hours per week

What suggestions do you have for improving the course?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Hanni Chandramouli  TERM: 1  CURRENT YEAR: 2018
DEPARTMENT: math  COURSE #: 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

CORRECT: ☐  INCORRECT: ☑ × ☐ ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

This instructor was very well-paced when explaining problems and going through class material.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:
Course item survey results will be made available online to help students make course selections.
Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?
Less homework problems to study when studying for quizzes.

Course Environment
How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional  Satisfactory  Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: [Name]
TERM: [Term]
CURRENT YEAR: [Year]
DEPARTMENT: [Department]
COURSE #: [Course]
SECTION: [Section]

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- Erase thoroughly any answer you wish to change.

- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ☐
INCORRECT: ✓ ✗ ☒

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

The PPT is a good choice for me to review the class.

Did you take this course because it was required or was it an elective?
☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

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1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

I think we should be more examples for us to discuss.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

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</tbody>
</table>
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harris Chandramouli
TERM: Fall
CURRENT YEAR: 2018
DEPARTMENT: MATH
COURSE #: 1271
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Make solid marks that fill the response completely.

CORRECT: ☐  INCORRECT: ☑  ☐  ☐  ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

She explained things very well so all were able to understand.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
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- Make solid marks that fill the response completely.

**CORRECT:**   
**INCORRECT:** ✓ X ☒ ✗

**Instructor Items:**
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

explain the process clearly.

Did you take this course because it was required or was it an elective?
- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

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3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Maybe the class can be uploaded to the Internet.

course Environment

How would you rate the physical environment in which you took this class, especially the room facilities, including your ability to see, hear, concentrate and participate?

Exceptional | Satisfactory | Very Poor
--- | --- | ---
• | • | •
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli  TERM: Fall  CURRENT YEAR: 2018
DEPARTMENT:  COURSE #: math 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: o  INCORRECT: ✓ × ❌ ❌

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

- go over examples & ask if we had questions,
- ask if we were confused.

Did you take this course because it was required or was it an elective?

Required  Required, but one of several choices  Elective

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Course Items:

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1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-8 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Taught the course material clearly and thoroughly so it could be understood and learned more effectively.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
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6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
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   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional     Satisfactory     Very Poor

ScanDocs™ 16951-6430
Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Examples:

Look questions
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

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   - 0-2 hours per week
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   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Slow down.
Explain it more deeply.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional   Satisfactory   Very Poor
1   2   3   4   5   6   7
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Chande Mouli
TERM: Fall
CURRENT YEAR: 2018
DEPARTMENT:
COURSE #: 1271
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Erase thoroughly any answer you wish to change.

- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT:  INCORRECT: ✓

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

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4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional | Satisfactory | Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramadi  TERM: Fall  CURRENT YEAR: 2018

DEPARTMENT: Math  COURSE #: 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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CORRECT: •  INCORRECT: ✓ X ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Very nice PowerPoints

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Course Items:

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<td>1.</td>
<td>I have a deeper understanding of the subject matter as a result of this course.</td>
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<td>2.</td>
<td>My interest in the subject matter was stimulated by this course.</td>
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<td>3.</td>
<td>Instructional technology employed in this course was effective.</td>
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<td>4.</td>
<td>The grading standards for this course were clear.</td>
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<td>5.</td>
<td>I would recommend this course to other students.</td>
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<td>6.</td>
<td>Approximately how many hours per week did you spend working on homework, readings, and projects for this course?</td>
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<td>15 or more hours per week</td>
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</tbody>
</table>

What suggestions do you have for improving the course?

Have solutions online for worksheets in class and final exam.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?  

<table>
<thead>
<tr>
<th></th>
<th>Exceptional</th>
<th>Satisfactory</th>
<th>Very Poor</th>
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</tr>
</tbody>
</table>
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramolu
DEPARTMENT: Calculus
TERM: Fall
CURRENT YEAR: 2013
COURSE #: 1271
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

• Use a No. 2 pencil or a blue or black ink pen only.
• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.
• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: ● INCORRECT: ✓ X ○ ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

The slides were absolutely incredible. A great mix of that & writing on the whiteboard helped a lot.

Did you take this course because it was required or was it an elective?

○ Required
○ Required, but one of several choices
○ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

I think the way the material was presented was very good. No suggestions.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Havini Chandramouli  TERM:  
DEPARTMENT: Math  CURRENT YEAR:  
COURSE #: 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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• Do not use pens with ink that soaks through the paper.
• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: ☐  INCORRECT: ✓ ☐ ☐ ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

I liked the slides, easy to listen to, because engages audience.

Did you take this course because it was required or was it an elective?

☐ Required  ☐ Required, but one of several choices  ☐ Elective

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Office of Measurement Services
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional | Satisfactory | Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: [Handwritten Name]  TERM: Fall 2016  CURRENT YEAR: 2016
DEPARTMENT: [Handwritten Name]  COURSE #: 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Erase thoroughly any answer you wish to change.

CORRECT: \( \bullet \)  INCORRECT: \( \checkmark \times \)

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Thoughtful class slides during lecture

Did you take this course because it was required or was it an elective?

\[ \bullet \] Required
\[ \square \] Required, but one of several choices
\[ \spadesuit \] Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

TA go over hw more than sheets

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor

[Circle the appropriate rating]
University of Minnesota Student Rating of Teaching

INSTRUCTOR: ___________________________ TERM: ___________ CURRENT YEAR: ___________
DEPARTMENT: _________________ COURSE #: ___________ SECTION: ___________

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Erase thoroughly any answer you wish to change.

CORRECT:  [ ] INCOMPLETE:  [ ] INCORRECT:  [X] [ ]

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Good at explaining tough topics

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Post review question answers sooner

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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CORRECT: ●
INCORRECT: ✗ ☐ ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

I liked the power points. They made it so I could see the problem while you were doing it on the board. The drawings in those helped alot. Also later I could look back at the power points onدراسة

Did you take this course because it was required or was it an elective?
☐ Required
☐ Required, but one of several choices
☐ Elective

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Office of Measurement Services
Course Items:

Course item survey results will be made available online to help students make course selections. 
Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
   - Strongly Agree
   - Somewhat Agree
   - Somewhat Disagree
   - Strongly Disagree
   - Not Applicable

2. My interest in the subject matter was stimulated by this course.
   - Strongly Agree
   - Somewhat Agree
   - Somewhat Disagree
   - Strongly Disagree
   - Not Applicable

3. Instructional technology employed in this course was effective.
   - Strongly Agree
   - Somewhat Agree
   - Somewhat Disagree
   - Strongly Disagree
   - Not Applicable

4. The grading standards for this course were clear.
   - Strongly Agree
   - Somewhat Agree
   - Somewhat Disagree
   - Strongly Disagree
   - Not Applicable

5. I would recommend this course to other students.
   - Strongly Agree
   - Somewhat Agree
   - Somewhat Disagree
   - Strongly Disagree
   - Not Applicable

6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

I found tests to be more questions because with the big questions if I got stuck on something small at the beginning of the problem, I was finishing out doing able to do the rest of the things. I might have known further into the problem and lost a lot there, part.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

- Exceptional
- Satisfactory
- Very Poor
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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**CORRECT:** ○ **INCORRECT:** ✓ ✗ ✬ ❌

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Did you take this course because it was required or was it an elective?
- ○ Required
- ○ Required, but one of several choices
- ○ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.  
2. My interest in the subject matter was stimulated by this course.  
3. Instructional technology employed in this course was effective.  
4. The grading standards for this course were clear.  
5. I would recommend this course to other students.  
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

When average is failing for midterms and there is no curve then the grade is just decided at the end. It makes no sense it is hard to tell how you're doing.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional | Satisfactory | Very Poor
------------|-------------|-------------
| 1 | 2 | 3 |
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Ravini Chandramouli
DEPARTMENT: NURS 207
TERM: FA18
CURRENT YEAR: 2018
COURSE #: 12-71
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ☐  INCORRECT: ✓ x ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Example: lectures were really helpful and also review days before midterms. Every time I went to class I felt like I learned something.

Did you take this course because it was required or was it an elective?
☐ Required
☐ Required, but one of several choices
☐ Elective

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Office of Measurement Services
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

My TA was really pushy in discussions, but other than that, the course was great.
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ●
INCORRECT: ✗ X ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

She made sure to emphasize the important things that you need to remember.

She was very clear with what to focus on and study.

Did you take this course because it was required or was it an elective?
- Required
- Required, but one of several choices
- Elective

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Office of Measurement Services
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

maybe do a few more examples during lecture
and a super quick review of what is
on the weekly quiz

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor
Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

She did a good job of presenting the material in the same way. I just think some very basic ideas were made way more complicated than it needed to be.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Making the homework required so there is more of an incentive to do it.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Haemi Cho  
TERM: Fall  
CURRENT YEAR: 2018  
DEPARTMENT: MATH  
COURSE #: 1271  
SECTION: 010  

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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• Erase thoroughly any answer you wish to change.

• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT: ●  INCORRECT: ✓ ✗ ✅ ❌

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

She made sure the notes showed up everyday to review if needed.

Did you take this course because it was required or was it an elective?

☒ Required  ☐ Required, but one of several choices  ☐ Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - [ ] 0-2 hours per week
   - [ ] 3-5 hours per week
   - [ ] 6-8 hours per week
   - [ ] 10-14 hours per week
   - [ ] 15 or more hours per week

What suggestions do you have for improving the course?

I think there needs to be more similarity between other sections of this course, I had (the course) who got 90% on tests and have never taken relays where I got 50% and have taken relays. The tests were very different.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.  ( ) ( ) ( ) ( ) ( )
2. The instructor presented the subject matter clearly.  ( ) ( ) ( ) ( ) ( )
3. The instructor provided feedback intended to improve my course performance.  ( ) ( ) ( ) ( ) ( )
4. The instructor treated me with respect.  ( ) ( ) ( ) ( ) ( )
5. I would recommend this instructor to other students.  ( ) ( ) ( ) ( ) ( )

What did the instructor do that most helped your learning?
The instructor was very clear in her teaching and used lots of examples that helped me be prepared for quizzes and exams.
Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
2. My interest in the subject matter was stimulated by this course.
3. Instructional technology employed in this course was effective.
4. The grading standards for this course were clear.
5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

I have none. ☐

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional ☐ Satisfactory ☐ Very Poor ☐
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramouli
DEPARTMENT: Math
TERM: Fall
COURSE #: 1231
SECTOR: 070
CURRENT YEAR: 2018

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ☐ INCORRECT: ✓ x ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

She conceptualized the math problems with drawings and graphs and explained how to think about the different terms with questions and written explanations. Her step by step problem-solving and slides made it easier to follow the course material. I also appreciated that she would describe what questions to ask to move from one step to the next.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Office of Measurement Services
Course Items:

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   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

N/A
Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

**MARKING INSTRUCTIONS**
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- Make no stray marks on answer sheet.
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**CORRECT:** ☐  ☑ ☐ ☐  ☐

**INCORRECT:** ☑ ☑ ☐ ☐ ☑

**Instructor Items:**
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

Enthusiasm was appreciated.

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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   - 15 or more hours per week

What suggestions do you have for improving the course?

Make sure you don’t have mistakes in your slides.

If you give out a review without an answer key there is no point in doing the review because you don’t know if you’re doing this right.

Sometimes it seemed like we were being tested more on algebraic manipulation than calculus.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
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**CORRECT: ○**  **INCORRECT: ✓ X ☒ ☐**

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Carefully read each statement and select a response

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3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

**What did the instructor do that most helped your learning?**

Using visual aid on the projector.

---

Did you take this course because it was required or was it an elective?
- Required
- Required, but one of several choices
- Elective

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What suggestions do you have for improving the course?

Fix the grading system waiting till the final to determine the curve for the course is not helpful. Also, only having a week between the last midterm and final is a bit of work.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

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</table>
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Haniri Chandramouli  TERM: Fall  CURRENT YEAR: 2018
DEPARTMENT:  COURSE #: Math 1271  SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

- Use a No. 2 pencil or a blue or black ink pen only.
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- Erase thoroughly any answer you wish to change.
- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT:  INCORRECT:  ✓  ×  ○  ⊗

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

- Slides were helpful as a second way from textbook to see material.
- Lecture was most often a touch more illuminating than textbook.
- Talked about what would most likely be on tests.
- Really liked and appreciated histograms of exam-score scores.

Did you take this course because it was required or was it an elective?

- Required
- Required, but one of several choices
- Elective

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Course Items:

Course item survey results will be made available online to help students make course selections. Carefully read each statement and select a response.

1. I have a deeper understanding of the subject matter as a result of this course.
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5. I would recommend this course to other students.
6. Approximately how many hours per week did you spend working on homework, readings, and projects for this course?
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   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

Be late less often. When students start shutting at end of class be less condescending and panic trippy. This class isn't "your" time.

Don't ask so many questions that have obvious answers, it's confusing. And, this isn't a discussion section or a small class.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

[Scale with options: Exceptional, Satisfactory, Very Poor]
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harini Chandramoorthy  TERM: Fall  CURRENT YEAR: 2016
DEPARTMENT: Math  COURSE #: 1211  SECTION: 01

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

MARKING INSTRUCTIONS

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• Erase thoroughly any answer you wish to change.
• Make no stray marks on answer sheet.
• Make solid marks that fill the response completely.

CORRECT:  INCORRECT:  ✓  ×  ○

Instructor Items:
Carefully read each statement and select a response.

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

- slides
- office hours
- examples
- homework
- helpful

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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Office of Measurement Services
Course Items:

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   - 0-2 hours per week
   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

- More examples

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?
University of Minnesota Student Rating of Teaching

INSTRUCTOR: ________________________ TERM: ____________________ CURRENT YEAR: __________

DEPARTMENT: ________________________ COURSE #: ____________ SECTION: ____________

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- Make no stray marks on answer sheet.
- Make solid marks that fill the response completely.

CORRECT: ☐ INcorrect: ☑ ☒ ☐

Instructor Items:
Carefully read each statement and select a response.

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
3. The instructor provided feedback intended to improve my course performance.
4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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   - 0-2 hours per week
   - 3-5 hours per week
   - 6-8 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

- Make discussion worksheets graded, so students can be encouraged to practice more
- Don't make everything based on exams.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional   Satisfactory   Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR:_________________________________________ TERM:_________ CURRENT YEAR:_________
DEPARTMENT:______________________________________ COURSE #:_________ SECTION:_________

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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CORRECT: ○ INCORRECT: ✓ × ◢ ◣

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
2. The instructor presented the subject matter clearly.
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4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

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<td>(16)</td>
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</tbody>
</table>

What did the instructor do that most helped your learning?

Did you take this course because it was required or was it an elective?

☐ Required
☐ Required, but one of several choices
☐ Elective

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   - 3-5 hours per week
   - 6-9 hours per week
   - 10-14 hours per week
   - 15 or more hours per week

What suggestions do you have for improving the course?

...This is a normal thing in college (if it is then I apologize) but it makes it very difficult to know how well I'm doing if the grades aren't accounted for in until the end. Otherwise I felt you did a good job teaching us!

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional Satisfactory Very Poor
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CORRECT: ●
INCORRECT: ✓ × ⬤ ☐

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
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4. The instructor treated me with respect.
5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Did you take this course because it was required or was it an elective?

☑ Required
☐ Required, but one of several choices
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   - ☐ 15 or more hours per week

What suggestions do you have for improving the course?

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

Exceptional   Satisfactory   Very Poor
University of Minnesota Student Rating of Teaching

INSTRUCTOR: Harii Chandramouli
DEPARTMENT: Math
TERM: Fall
CURRENT YEAR: 2018
COURSE #: 1271
SECTION: 010

Your responses to this questionnaire are important because they will be used in reviewing the teaching performance of your instructor. Your written comments are also requested to help your instructor improve future course offerings. The results of this rating (including all rating forms) will not be returned to the instructor until after the final grades are submitted for this course.

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CORRECT: ○ INCORRECT: ✓ × ☐ ⊗

Instructor Items:
Carefully read each statement and select a response

1. The instructor was well prepared for class.
   [ ] Strongly Agree
   [ ] Somewhat Agree
   [ ] Somewhat Disagree
   [ ] Strongly Disagree

2. The instructor presented the subject matter clearly.
   [ ] Strongly Agree
   [ ] Somewhat Agree
   [ ] Somewhat Disagree
   [ ] Strongly Disagree

3. The instructor provided feedback intended to improve my course performance.
   [ ] Strongly Agree
   [ ] Somewhat Agree
   [ ] Somewhat Disagree
   [ ] Strongly Disagree

4. The instructor treated me with respect.
   [ ] Strongly Agree
   [ ] Somewhat Agree
   [ ] Somewhat Disagree
   [ ] Strongly Disagree

5. I would recommend this instructor to other students.
   [ ] Strongly Agree
   [ ] Somewhat Agree
   [ ] Somewhat Disagree
   [ ] Strongly Disagree

What did the instructor do that most helped your learning?

[ ] Posted the notes online so the students could review them after lecture.

Did you take this course because it was required or was it an elective?

[ ] Required
[ ] Required, but one of several choices
[ ] Elective

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What suggestions do you have for improving the course?

Posting more solutions to some problems would be helpful.

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

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University of Minnesota Student Rating of Teaching

INSTRUCTOR: [Handwritten name]  TERM: [Handwritten term]  CURRENT YEAR: [Handwritten year]

DEPARTMENT: [Handwritten department]  COURSE #: [Handwritten course number]  SECTION: [Handwritten section]

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CORRECT: •  INCORRECT: ✓

Instructor Items:
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5. I would recommend this instructor to other students.

What did the instructor do that most helped your learning?

Did you take this course because it was required or was it an elective?

☐ Required
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   - 15 or more hours per week

What suggestions do you have for improving the course?

- **Pacing** - Instructor would sometimes labor over a simple poem and so then have to rush through the hands-on activity.

- **Clarity** - Could work on answering the questions in a clear and not leaving poems unfinished ("because", "yes", and then not explaining the "because").

- Grading standards that make sense.

- Instructor did not always solve their own problems correctly, this is confusing!

Course Environment

How would you rate the physical environment in which you take this class, especially the classroom facilities, including your ability to see, hear, concentrate and participate?

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