HOUSTON COMMUNITY COLLEGE

Division of Mathematics
Mathematics Department
https://learning.hccs.edu/programs/mathematics

Math 2413: Calculus I| Lecture | 19232

Spring 2021 | 16 Weeks (1.19.2021-5.16.2021)
Online
4 Credit Hours | 64 hours per semester

Instructor Contact Information

Instructor: Sukhlal Ramharack Office Phone: 713-718-5525
Office: Katy Campus, Room 215A

Office Hours : MW 3:00 – 4:00 pm & TTh : 11:00 – 11:30 am & 4:00 – 5:00 pm.

HCC Email: sukhlal.ramharack@hccs.edu Office Location: Katy Campus

Please feel free to contact me concerning any problems that you are experiencing in this course. Your performance in my class is very important to me. I am available to hear the concerns and just to discuss course topics.

Instructor's Preferred Method of Contact

My preferred method of contact is by e-mail. When leaving me a message please include in your e-mail, your class, days, time and section of concern. I will respond to emails within 24 hours Monday through Friday; I will reply to weekend messages on Monday mornings.

What's Exciting About This Course

This course will provide us a deeper understanding and appreciation of nonlinear functions. We will examine the concept of slopes of lines, the derivative, the integral and what they mean as was as their relationship to one another.

My Personal Welcome

Let me take a moment to welcome you to Calculus I. I am absolutely thrilled that you have chosen to expand your mathematical horizon. Mathematics is a difficult but exciting field. During the course you will be asked to break the norms and take a brief foray into why things are. We will attempt to examine nonlinear functions and the concept of limits. Mathematics is a wonderful field and I am very happy to be part of your inquiry into this most exquisite of

disciplines. I look forward to meeting all of you and I trust that we will have a great semester together.

As you read and wrestle with new ideas and facts that may challenge you, I am available to support you. The fastest way to reach me is by my HCC email. The best way to really discuss issues is in person and I'm available during posted office hours to tackle the questions. My goal is for you to walk out of the course with a better understanding and appreciation of mathematics. So please visit me or contact me by email whenever you have a question.

Prerequisites and/or Co-Requisites

Prerequisites: Math 2412: Pass with a "C" or better, or consent of the Department Chair. If you have enrolled in this course having satisfied these prerequisites, you have a higher chance of success than students who have not done so. Please carefully read and consider the repeater policy in the HCCS Student Handbook.

Canvas Learning Management System

This section of MATH 2413 will use Canvas (https://eagleonline.hccs.edu). This is where you will go to get your grades, announcements, exams, homework grades and any additional assignments.
HCCS Open Lab locations may be used to access the Internet and Canvas. **USE FIREFOX OR CHROME AS THE INTERNET BROWSER**.

HCC Online Information and Policies

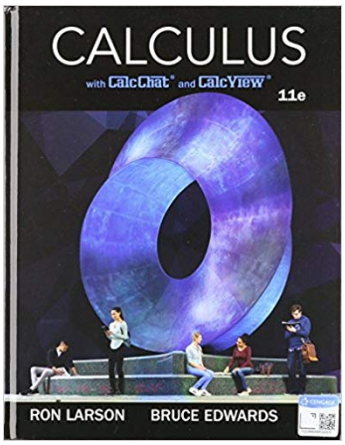
Here is the link to information about HCC Online classes including the required Online Orientation for all fully online classes: http://www.hccs.edu/online/

Scoring Rubrics, Sample Assignments, etc.

Look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. https://eagleonline.hccs.edu/login/ldap

Instructional Materials

Textbook Information



The textbook listed below is ***required*** for this course.
Textbook: Calculus, 11th Edition, by Ron Larson & Bruce H. Edwards, ISBN-13: 978-1337275347

Textbook Options for: Calculus, 11th Edition, by Ron Larson & Bruce H. Edwards
Loose-leaf Textbook + WebAssign Multi-Term Printed Access Card: Edwards ISBN-13: 978-1337604741
Hardbound Textbook + WebAssign Multi-Term Printed Access Card: Edwards ISBN-13: 978-1337604758
Hardbound Textbook: ISBN-13: 978-1337275347
WebAssign Multi-Term Printed Access Card: ISBN-13: 978-1285858265

Temporary Free Access to E-Book

For temporary free access to WebAssign and the online eBook, go to http://webassign.net and register using the **Course Key: hccs 2917 0341**

Other Instructional Resources

Tutoring
HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the HCC Tutoring Services website for services provided.

Libraries
The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at http://library.hccs.edu.

Supplementary Instruction
Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at http://www.hccs.edu/resources-for/current-students/supplemental-instruction/.

Course Overview

This course is a freshman level course that provides the background in mathematics for science and engineering students, and or further study in mathematics and its application. It is an integrated study of differential calculus with analytic geometry, which focusses on basic algebraic and transcendental functions. It is transferable as math credit to other disciplines.

Core Curriculum Objectives (CCOs)

Given the rapid evolution of necessary knowledge and skills and the need to take into account global, national, state, and local cultures, the core curriculum must ensure that students will develop the essential knowledge and skills they need to be successful in college, in a career, in their communities, and in life. Through the Texas Core Curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.

- ***Critical Thinking***: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- ***Communication Skills***: to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- ***Quantitative and Empirical Literacy***: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

Program Student Learning Outcomes (PSLOs)

Students in the Mathematics Program will:

1. Engage in problem solving strategies, such as organizing information, drawing diagrams and modeling.
2. Use symbolic representations to solve problems. This includes manipulating formulas, solving equations, and graphing lines.
3. Build the foundational mathematical skills that will enable a student to successfully complete a college level mathematics course.

Course Student Learning Outcomes (CSLOs)

Upon completion of MATH 2413, the student will be able to:

1. Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals.
2. Draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point.
3. Determine whether a function is continuous and/or differentiable at a point using limits.
4. Use differentiation rules to differentiate algebraic and transcendental functions.
5. Identify appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine solutions to applied problems.
6. Evaluate definite integrals using the Fundamental Theorem of Calculus.
7. Articulate the relationship between derivatives and integrals using the Fundamental Theorem Calculus.

Learning Objectives

Upon completion of this course the student will demonstrate

1. knowledge of limits by:
    (a) computing limits at a point and at infinity analytically,
    (b) applying the definition of continuity,
    (c) determining where a function is continuous or discontinuous,
2. knowledge of differentiation by:
    (a) finding the derivative of a function using the limit definition,
    (b) finding the equation of the tangent line to a curve at a point,
    (c) finding the rate of change of a function,
    (d) finding derivatives of polynomial, trigonometric, using differentiation rules,
    (e) finding derivatives using the product, quotient and chain rules,
    (f) implicitly differentiating equations,
    (g) computing higher order derivatives,
    (h) finding the intervals on which a function increases or decreases,
    (i) determining maximum and minimum points of a function,
    (j) finding the intervals on which a function is concave up or concave down
    (k) determining points of inflection of a function
    (l) using the first and second derivative tests to find relative extrema,
    (m) applying Rolle's theorem and the Mean Value theorem,
    (n) solving 'real world' optimization problems,
    (o) solving 'real world' problems involving related rates,
3. knowledge of integration by:
    (a) finding antiderivatives involving polynomial and trigonometric functions,
    (b) evaluating a definite integral using Riemann sums,
    (c) computing the average value of a function over an interval,
    (d) computing definite integrals using the Fundamental Theorem of Calculus,
    (e) solving applied problems using definite integrals,
    (f) finding indefinite integrals with a change of variables,
    (g) finding the area or regions under and between curves
4. knowledge of transcendental functions by:
    (a) finding derivatives of the natural logarithmic function
    (b) finding derivatives of exponential functions
    (b) finding antiderivatives which result in natural logarithmic and exponential functions
5. knowledge of inverse functions

Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments

- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as a guide.

Instructor and Student Responsibilities

As your Instructor, it is my responsibility to**:**

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required

As a student, it is your responsibility to**:**

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook

Assignments, Exams, and Activities

Instructional Methods

As an instructor, I want all my students to succeed in their endeavors. In order for one to succeed in this and any class two things will be expected of you (i) that you are prepared and (ii) that you are consistent in doing your homework. (i) Preparation requires that you have the relevant pre-requisite for the course. It also means that you attend class regularly you read and re-read as necessary the previous class material so that you are ready for the new material. I am always available to my students so if you have any questions please feel free to speak with me or e-mail me as necessary. (ii) Homework. In order to be successful in this course requires a level of commitment from you to do your home consistently. As the old adage goes "Math is not a spectator sport." In order to be successful in math requires that you DO math. This may mean that you may need to work on your homework daily, if there is a concept that you do not understand, you go to (i) tutoring , (ii) you seek assistance from your fellow classmates, (iii) you go online to valid websites to get help with understanding or reinforcing certain concepts and (iv) seek your professor's assistance.

Assessments

Grading Policy:	**90 – 100**	**A**
	80 – 89	**B**
	70 – 79	**C**
	60 – 69	**D**
	Below 60	**F**

Evaluation:	**Three Exams (19 % each)**	**57%**
	Final Exam	**25%**
	Quizzes	**5%**
	Discussions	**3%**
	Homework	**10%**
	Total	**100%**

Final Grade = 0.57E + 0.25FE + 0.05Q + 0.03D+ 0.10HW

Homework: Most homework will be completed online using Webassign.net

Course : Math 2413 Calculus I Fall 2020

Class Key: **hccs 2917 0341**

Calculator: A one – line scientific calculator is recommended for this course. Please see your professor concerning its use.

Software : **Maple 18 is recommended**

The sharing of calculators or any other electronic device during examinations is strictly prohibited

If an unapproved calculator or electronic device is found in your possession after the examination has begun, then you will be dismissed and you will be assigned a score of zero (0).

System Requirements needed for Class.

The Math Department is requiring the remote proctoring of all major examinations (including the Final Exam) to ensure the integrity of the assessment process and to prevent acts of academic dishonesty. In this course, in addition to a reliable internet connection, you will be required to have hardware that meets the following minimal requirements:
a) a functioning webcam and microphone, and
b) a computer with operating system that is capable of running the Respondus LockDown Browser and Respondus Monitor.

Approximately 3 major exams and a **comprehensive** final will be given. Absence on a test date is severely discouraged. **There will be no make up exams or quizzes during the**

semester. If you miss a quiz or an exam, then you will receive a 0 for that assessment. ***NO exam will be "dropped" or replaced.*** The exams are closed-notes, closed-book non-collaborative exams. The exams will definitely take place at the dates prescribed in the included class schedule at the scheduled exam times (barring an event that closes the college), so please plan your schedule accordingly.

Final Exam

All students will be required to take a cumulative Final.

Final Exam Review Sessions: HCC MATH DAYS

The Math Department will offer several Final Exam Review sessions (i.e., **HCC Math Days**) for this course near the end of the semester (Fall and Spring semesters only). We encourage you to attend at least one of these sessions as you prepare for the comprehensive Final Exam. Your professor will provide you with more information regarding HCC Math Days locations and session times later in this semester.

While the full-time Math Department faculty leading these review sessions are prepared to answer students' questions on a variety of course topics, the **Final Exam Study Guide** will provide the basis for the HCC Math Days sessions. Therefore, to get the most out of these review sessions, be sure review and to work through the **Final Exam Study Guide** before you attend the review session(s). Please ask your professor if you have any questions regarding these sessions. Finally, the Math 2413 **Final Exam Study Guide** and the **dates** for the Math Days review sessions are located at:
https://cofinite.com/MathDays/Math2413.php

Incomplete Policy:

In order to receive a grade of Incomplete ("I"), a student must have completed at least 85% of the work in the course. In all cases, the instructor reserves the right to decline a student's request to receive a grade of Incomplete.

HCC Grading Scale can be found on this site under Academic Information: http://www.hccs.edu/resources-for/current-students/student-handbook/

Course Calendar

	Course:	**Math 2413 Calculus I**			
	Text:	**Calculus, by Larson, Hostetler, and Edwards, 11th ed**			
	Instructor:	**Mr. Sukhlal Ramharack**			
	Time/Room	**Online**			
	E-mail:	sukhlal.ramharack@hccs.edu			
Week	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**
1	**1/11**	**1/12**	**1/13**	**1/14**	**1/15**
2	**1/18**	**1/19**	**1/20**	**1/21**	**1/22**
	Martin Luther King Day		Into & 1.2		
	(Offices closed - No Class)				
3	**1/25**	**1/26**	**1/27**	**1/28**	**1/29**
	1.3, 1.4		1.5, 2.1		
4	**2/1**	**2/2**	**2/3**	**2/4**	**2/5**
	2.1, 2.2		***Exam 1 Ch 1***		
	Official Day				
5	**2/8**	**2/9**	**2/10**	**2/11**	**2/12**
	2.3		2.4,		
6	**2/15**	**2/16**	**2/17**	**2/18**	**2/19**
			2.5		
	Office Closed President's Day Holiday				
7	**2/22**	**2/23**	**2/24**	**2/25**	**2/26**
	2.6		3.1		
	3/1	**3/2**	**3/3**	**3/4**	**3/5**

8	3.2		***Exam 2 Ch 2***		
9	**3/8**	**3/9**	**3/10**	**3/11**	**3/12**
	3.3		3.4		
10	**3/15**	**3/16**	**3/17**	**3/18**	**3/19**
	Spring Break				
11	**3/22**	**3/23**	**3/24**	**3/25**	**3/26**
	3.5, 3.6		3.7, 3.8		
12	**3/29**	**3/30**	**3/31**	**4/1**	**4/2**
	3.9,4.1		4.1, 4.2		
13	**4/5**	**4/6**	**4/7**	**4/8**	**4/9**
	Exam 3 Ch 3		4.3		
		W - Day			
14	**4/12**	**4/13**	**4/14**	**4/15**	**4/16**
	4.4,		4.5		
15	**4/19**	**4/20**	**4/21**	**4/22**	**4/23**
	5.1,		***5.2***		
16	**4/26**	**4/27**	**4/28**	**4/29**	**4/30**
	5.3,		***5.4***		
16	**5/3**	**5/4**	**5/5**	**5/6**	**5/7**
	5/10	**5/11**	**5/12**	**5/13**	**5/14**
		Final Exam			

Syllabus Modifications

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

Instructor's Practices and Procedures

Academic Integrity

All forms of academic dishonesty including, but not limited to cheating, plagiarism, and collusion are serious offenses. Possible consequences for academic dishonesty include a grade a 0 or F in the particular assignment, failure in the course, and/or recommendations for probation or dismissal from the institution.

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance): http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/

Attendance Procedures

Class Attendance - It is important that you come to class! Attending class regularly is the best way to succeed in this class. Research has shown that the single most important factor in student success is attendance. Simply put, going to class greatly increases your ability to succeed. You are expected to be on time at the beginning of each class period. For complete information regarding Houston Community College's policies on attendance, please refer to the Student Handbook. You are responsible for materials covered during your absences. Class attendance is checked daily. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences.

If you are not attending class, you are not learning the information. As the information that is discussed in class is important for your career, **students may be dropped from a course after accumulating absences in excess of six (6) hours of instruction**. The six hours of class time would include any total classes missed or for excessive tardiness or leaving class early.

You may decide NOT to come to class for whatever reason. As an adult making the decision not to attend, you do not have to notify the instructor prior to missing a class. However, if this happens too many times, you may suddenly find that you have "lost" the class.

Poor attendance records tend to correlate with poor grades. If you miss any class, including the first week, you are responsible for all material missed. It is a good idea to find a friend or a buddy in class who would be willing to share class notes or discussion or be able to hand in your work if you unavoidably miss a class

The last day to withdraw April 6th 2021

Student Conduct

Students are expected to comport themselves in a manner so as to not be detrimental to the academic atmosphere. While this class is of an online nature some students may set up platforms where they may meet as a group, such as, "groupme". It is expected that you treat each other with civility and respect. Any student found in breach will be reported to the relevant authorities within the department.

Electronic Devices

It is expected that while in class all electronic devise should be placed on silent or off so as to no disturb the learning environment. If there is an extenuating circumstances please inform the professor.
The use of electronic devices by students in the classroom is up to the discretion of the instructor. Any use of such devices for the purposes other than student learning is strictly prohibited unless authorized as an appropriate ADA accommodation from the ADA Counselor.

Mathematics Program Information

- HCC Math Student Organizations: Mu Alpha Theta: Application: https://www.hccs.edu/resources-for/current-students/stem--science-technology-engineering--mathematics/stem-clubs/mu-alpha-theta-application/

HCC Policies

Here's the link to the HCC Student Handbook http://www.hccs.edu/resources-for/current-students/student-handbook/ In it you will find information about the following:

- Academic Information
- Academic Support
- Attendance, Repeating Courses, and Withdrawal
- Career Planning and Job Search
- Childcare
- disAbility Support Services
- Electronic Devices
- Equal Educational Opportunity
- Financial Aid TV (FATV)
- General Student Complaints
- Grade of FX
- Incomplete Grades
- International Student Services
- Health Awareness
- Libraries/Bookstore
- Police Services & Campus Safety
- Student Life at HCC
- Student Rights and Responsibilities
- Student Services
- Testing
- Transfer Planning
- Veteran Services

EGLS^3

The EGLS^3 (Evaluation for Greater Learning Student Survey System) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS^3 surveys are only available for the Fall and Spring semesters. -EGLS3 surveys are not offered during the Summer semester due to logistical constraints.
http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/

Campus Carry Link

Here's the link to the HCC information about Campus Carry:
http://www.hccs.edu/departments/police/campus-carry/

HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go to HCC Eagle ID and activate it now. You may also use Canvas Inbox to communicate.

Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (http://www.hccs.edu/departments/institutional-equity/)

disAbility Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to http://www.hccs.edu/support-services/disability-services/

Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and

parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:
David Cross
Director EEO/Compliance
Office of Institutional Equity & Diversity
3100 Main
(713) 718-8271
Houston, TX 77266-7517 or Institutional.Equity@hccs.edu
http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/

Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/

Department Chair Contact Information

College - Level Math Courses

Chair of Math	Susan Fife	SW Campus	713-718-7241	Stafford, Scarcella, N108
- Admin. Assistant	Tiffany Pham	SW Campus	713-718-7770	Stafford, Scarcella, N108
- Admin. Assistant	Christopher Cochran	SW Campus	713-718-2477	Stafford, Scarcella, N108
Math Assoc. Chair	Jaime Hernandez	CE Campus	713-718-7772	San Jacinto Building, Rm 369
Math Assoc. Chair	Mahmoud Basharat	NW Campus	713-718-2438	Katy Campus Building, Rm 112
Math Assoc. Chair	Emmanuel Usen	NE Campus	713-718-8062	Northline, Rm 324

Developmental Math Courses

Chair of Dev. Math	Marisol Montemayor	SE Campus	713-718-7153	Felix Morales Building, Rm 124
- Admin. Assistant	Carmen Vasquez	SE Campus	713-718-7056	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Hien Nguyen	SE Campus	713-718-2440	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Jack Hatton	SW Campus	713-718-2434	Stafford, Learning Hub, Room 208

For issues related to your class, please first contact your instructor.
If you need to contact departmental administration, then contact the appropriate Associate Chair.
If further administrative contact is necessary, then contact the appropriate Department Chair.

Syllabus Update: Making Up for the Lost Time Due to Winter Storm
To make-up for the delayed start of our Second Start course due to the inclement weather experienced February 16-24, I will post a worksheet for Chapter 2. This worksheet must be done and submitted in PDF form via e-mail. This submission will be counted towards your discussion grade. Please check your announcements in canvas for the due date for the worksheet Exam 1 will be also administered using a proctored setting (Respondus Lockdown Browser with Webcam Monitor).