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Upcoming

Woohoo, no work due soon!

View all

New announcement

Sakal Roy
Jan 1

HAPPY NEW YEAR 2(x^2+y^2).
Solve, Integers only. 😁

1 Jan 2026 at 00:55.png

2 class comments

Sakal Roy • Jan 1
yeah, that's the spirit! lets solve all our problems through mathematics.

Add class comment...

Sakal Roy
Oct 7, 2025

FYI

Faculty Initial	Days	08:00 am - 09:20 am	09:30 am - 10:50 am	11:00 am - 12:20 pm	12:30 pm - 01:50 pm
SKY	Saturday			MAT110 (3) 07H-30C	MAT110 (4) 07H-30C
	Sunday				
	Monday				MAT456 (1) 10H-39C
	Tuesday				
	Wednesday				MAT456 (1) 10H-39C
	Thursday			MAT110 (3) 07H-30C	MAT110 (4) 07H-30C

SKY_FALL_2025.png

Add comment

Sakal Roy
Sep 24, 2025

Dear All,

- As promised MID AND FINAL RESULT ANALYSIS_MAT110_SUMMER_2025 has been sent to everyone's individual mails. Hope that helps you in future to analyze your strength and weakness and improve.
- For future use I'm sharing here the teaching-learning material's I've curated till now during the courses I taught. Hope you can make good use of it.

MAY THE BEAUTY OF MATHEMATICS ILLUMINATES YOUR LIFE.

==========
MULTIVARIABLE CALCULUS TEACHING -LEARNING RESOURCES (MAT 110+MAT 120)+ TOPICS IN COMBINATORICS(MAT 456)//Curated by SAKAL ROY//FIN: SKY
Dear All,
Here are all teaching-learning material curated by me in MNS, BRACU till date for everyone's' convenience. All of these are updated till the last semester I taught these courses. So it's subject to change in next semesters based on the decision of corresponding honourable Course coordinators. Therefore, please consider these just as a further resource for teaching-learning. And in case of any confusion please consider the respective course coordinator's decision as final.
I'm greatly indebted to my colleagues, my students for their continuous support through their constructive criticism and discussion sessions in and outside classroom and sometimes even outside the university.
Heartiest thanks to MNS, BRACU for providing a fresh air for healthy academic debate and discussion.
And, It'll be my utmost pleasure if you send me your invaluable feedbacks at: ext.sakal.roy@bracu.ac.bd
I'll try to accommodate them as much as I can and develop these materials further.

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Hope that helps. Thanks for your support and cooperation.

==========

https://rb.gy/vbk2ed
or
https://docs.google.com/document/d/1LsnSjBDHpO7c7iYmUKxT2cep7AGiadSW9XqDvgcil20/
MAT120_SUMMER_2024_SKY
To share this document to anyone- USE the following link:
https://shorturl.at/hCDaT
MAT456_FALL2024_SKY
To share this document to anyone- USE the following link:
https://shorturl.at/beim5
==========
You can share these link with the following foreword to anyone or
Keep it confidential before the end of this semester.
FOREWORD
"These resources are only for BRACU students instructed by me, some of these are my personal comments and not a universal and complete guide for the course.
The reference books are better to refer to anyone for a complete view."

Regards
- ***Sakal Roy***

Adjunct (Contractual) Faculty,
MNS, BRACU,
Academic Counselor, BdMOC,
Former Senior Math Olympiad Consultant,
PEDP4, DPE, MoPME,
Author, Secondary Mathematics Textbook, NCTB

Member, Sub-committee:
Chess in School, Online and Digital Chess, Grassroot Chess Development,
Bangladesh Chess
Federation==========

2 class comments

Sakal Roy • Sep 24, 2025
Thank you mahir. It was my pleasure to have a nice experience with you all.

Add class comment...

Sakal Roy
Sep 23, 2025 (Edited Sep 23, 2025)

I tried to ensured that no one misses next grade for 2 marks. SO what you're seeing is already rounded as much as I can, no further increase is possible from my end. Check for any discrepancy only.
see updated one here. last version deleted.
Best wishes.

MAT110_SUMMER_2025_S...
PDF

Add comment

Sakal Roy
Sep 23, 2025

@everyone
2 notes for you all for your future academic journey.
1) Even if I mentioned many times in class and exam review sessions, some of you has answered more than 5 questions in MID and in FINAL EXAM. And as I said earlier my system as usual practice directly discarded the last one. In some cases you've got more marks in last problem and discarding that directly affects your grade.
Don't do that again in any future academic exam, read the instruction of the question carefully and abide by it. Otherwise, not everytime there'll be scope for manual adjustment.
However, I am checking again manually now to make sure that those who answered more than 5 ques get the best 5.
It's taking more time than I expected. Will send everything after checking all such cases to avoid unfortunate reduction in your marks.
2)

In each problems in MID and FINAL the fractional marks are already being rounded up in my system up to 1 decimal places so allowing a probable increase in general.
Even after that, In case anyone misses next grade for 1 marks (which is equivalent to 1.5 marks jump due to rounding in BRACU system), I'll add that as BONUS.

But anything more than that can't be adjusted anymore by me to maintain the integrity of assessment.

Thanks in advance for your understanding and patience.
Best wishes.

Add comment

Sakal Roy
Sep 22, 2025

@everyone
Announcement:

1. Marks breakdown(A,B,C) in each problem and total marks of MID and FINAL will be sent to everyones email **individually** on: ***around 1:00 pm, tomorrow 23 sept, 2025 (TUESDAY).***

2. Complete Gradesheet of everyone containing quiz, assignment, mid, final and total marks and grade will be directly uploaded here on:
around 2:00 pm, tomorrow 23sept, 2025 (TUESDAY).

3. Inform me regarding anything related to **gradesheet:**

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within 4:00 pm tomorrow 23 sept, 2025 (TUESDAY).

4. I'll submit all marks in CONNECT within:

1-2 working day for the administration to show all results to students officially after faculties submit in CONNECT. **Wait for that.**

Have a safe and sound term break. I'll be glad if you visit at my desk in next semester or whenever you get time. Let me know if I can assist you in anything in anyway. **Wish you all a wonderful life.**
Best wishes.

Add comment

Sakal Roy
Sep 21, 2025 (Edited Sep 21, 2025)

I'm on my way to BRACU.
Will be a bit late. So thoseose who want to want to check script today please come after 10:45 AM. If you've already reached just comment your Name, ID and Section here. Thanks in advance.

4 class comments

MD. AKIBUL HAQUE EVAN • Sep 21, 2025
MD Akibul Haque Evan,1000056052,sec:17

Add class comment...

Sakal Roy
Sep 21, 2025

For your convenience and based on some of your requests I'm announcing FINAL (and MID) **Script checking day_slot 2:**
Monday, 22 sept, 2025 : (10:00 am

- **5:00 pm)**
  *you can come today in **slot 1:**
  (Snday, 21 sept, 2025: 10:00 am -5:00 pm) also as announced.
  However, I'm still working on inputting marks of everything: quiz, assignment, mid, makeup mid, final. So, I can send everything in individual mail after Monday, 22 sept, 2025 : 7:00 pm.
  1. So, in slot 1, I'll focus on individual discussion regarding assessment of your scripts as much as I can and won't be able to calculate all the fractional partial marks.
  2. In slot 2, hopefully I'll be able to input everything and be ready to show and send you all the individual marks.
  So, meet me in the slot that suits best for you.
  Thanks in advance for your patience and cooperation.
  Best wishes.

Add comment

Sakal Roy
Sep 20, 2025

Group Quiz_participant list_sec_04,17,20_SKY for convenience. Those who aren't in this list submit the extra assignment mentioned earlier.
Best wishes.

MAT_110_GroupQuiz_partic...
PDF

Add comment

Sakal Roy
Sep 18, 2025 (Edited Sep 19, 2025)

@everyone
FINAL SCRIPT CHECKING TIME:
Date: September 21, 2025 (Sunday)
Time: 10:00am – 5:00pm
MID SCRIPTS: **You can see your MID scripts also in the same date and time if you haven't.*
ASSIGNMENT INFO:
****Submit Assignment_1 in google form if you haven't already.***
****Submit Assignment_2 within 11:59 pm, 21 September, 2025 (Sunday)***
: Just Commenting in the assignment_2 post given earlier

in Google Classroom/Slack. Don't comment here or submit me anything in email for Assignment_2.
QUIZ:
***Those who have attended Group Quiz (mathematical debate) will get full marks in Quiz.**
Those who haven't attend the Group Quiz Email in my official mail with the followings within *11:59 pm, 21 September, 2025 (Sunday):1. Name:
2. Student ID:
3. Reason of absence in Group Quiz:
4. PDF attachment containing Solution of all the Mini Assignment Questions I've posted in this semester in Group Communication medium (Google Classroom/Slack).

IT WAS A NICE EXPERIENCE WITH YOU ALL.
TAKE CARE. BEST WISHES.

1 class comment

LUBABA TASNIM SIDDIQUA • Sep 19, 2025
Sir is it possible to check the final script tomorrow?

Add class comment...

Sakal Roy

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Sep 15, 2025
@everyone
Dear All,

https://drive.google.com/file/d/1Aa0VidSrtrjxb8gIEv2_vrrtwrnsjrtd/view?usp=sharing

Please, let me know if there's any mistake found. Regards
Sakal Roy
Adjunct (Contractual) Faculty,
MNS, BRACU

FINAL EXAM_MAT_110_SU...
PDF

Add comment

Sakal Roy
Sep 14, 2025

@everyone
Recording:
https://bdren.zoom.us/rec/share/2yEdS2bEUlgXyi07JGAGgcMltV0QDS1lZCQguD1mVB9sOtkzf7XKfPwp9h-gmdpO.EYgbdzpYPQZjapXm

Drawing board (open with draw.io):
https://drive.google.com/file/d/14QJWXqLpz8tiI3DiAJ5UDLvsikFDRTy1/view?usp=sharing

INFORM ME IN EMAIL BEFORE EXAM IN CASE OF ANY EMERGENCIES.
GOODNIGHT.
BEST WISHES.

Error - Zoom
https://bdren.zoom.us/rec/share/2y

MAT 110: FINAL EXAM_Revi...
Unknown

Add comment

Sakal Roy
Sep 14, 2025 (Edited Sep 14, 2025)

@everyone
Considering everyones performace in: **Group Quiz (Mathematical Debate), Assignment 1 and MIDTERM EXAM** :
I've one more ANNOUNCEMENT to make:
>> I'll not ask you to submit anything online for Assignment (assignment_2)
>> Instead your Assisgnment_2 will be to:

- **WATCH** the following video:

  https://www.youtube.com/watch?v=dyIFohEjkyM
- Now, based on that, **COMMENT HERE** in your own words **about 3 takeaways** regarding **WHAT TO DO** and **WHAT NOT TO DO** in both **LIFE** and **MATHEMATICS**.

BEST WISHES.

How Engineers play Basket...
YouTube video • 4 minutes

37 class comments

JOBLUR RAHAMAT JOBLEY • Sep 23, 2025
Assingment-02
Name: JOBLUR RAHAMAT JOBLEY
Sec: 17
Stu.ID: 1000056014

To do:
1. Keep things simple.
2.build strong fundamentals
3. Learn from your mistakes

Not to do:
1.overconfidence leads to downfall
2. Never give up
3.don't judge a book by its cover

Add class comment...

Sakal Roy
Sep 14, 2025

@everyone
Sakal Roy is inviting you to a scheduled BdREN Zoom meeting.

Topic: MAT 110: FINAL EXAM_Review Class: Tips and Tricks
Time: Sep 14, 2025 07:00 PM Astana, Dhaka

--> Join BdREN Zoom Meeting from Laptop or Mobile:
https://bdren.zoom.us/j/2313081916?pwd=qdiZaZxXahPZ9k25qdyxs9lbolJ0I9.1&omn=99731971725

Meeting ID: 231 308 1916
Password: savelife
Coordinate Geometry(Transformation of coordinates (rectangular, cylindrical, spherical coordinates)) part te following is enough.
https://www.youtube.com/watch?v=Pc9jjcjErrw
https://www.youtube.com/watch?v=LdqBDbfFKGg
https://www.youtube.com/watch?v=Zc8uCT-e5KI

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https://www.youtube.com/watch?v=LHbpHPoX_Ns
https://www.youtube.com/watch?v=FDyenWWlPdU

CalcBLUE 3 : Ch. 13.5 : Cylin...
YouTube video • 2 minutes

CalcBLUE 3 : Ch. 14.1 : Intro ...
YouTube video • 3 minutes

CalcBLUE 3 : Ch. 14.2 : Visu...
YouTube video • 2 minutes

Spherical Coordinate Syste...
YouTube video • 4 minutes

Add comment

Sakal Roy
Sep 11, 2025 (Edited Sep 11, 2025)

@everyone
Todays class will start 30 minutes later.
This 30 minutes you'll give a self-supervised test (I won't be present). Take a pen and paper and solve on your own. I'll collect solutions and mathematical thinking ideas from everyone afterwards. Yes, you can discuss in groups but I'll ask for explanation from everyone.
See you all in class.
QUESTION:
What are the solutions for (a,b,c) where:
2i + 3j +4k = k(a. i+b. j +c. k)
and 2a^2+3b^2+4c^2= 11

Todays main goal:
1. Learning simultaneous multivariable equation solving to get all the critical points from Maxima minima of two variable and Lagrange Multiplier method.

2. Next we'll wrap up the session by recaping Conic sections topics necessary for exam (mostly taught in HSC/Grade 11-12) and transformation of coordinates.

Add comment

Sakal Roy
Sep 10, 2025

@everyone
Todays make up class recording. See you all in next class at BRACU.
https://bdren.zoom.us/rec/share/dXPDa0tehxO9eaokHuskMuKQms7AcKwUZzsmDUGOZU8FzOSZ2BfJ9Wlhnmy6pys5.t5mOyQG3By89RH55

Error - Zoom
https://bdren.zoom.us/rec/share/dX

Add comment

Sakal Roy
Sep 10, 2025

@everyone
Sakal Roy is inviting you to a scheduled BdREN Zoom meeting.
Topic: MAT110: **MAKEUP CLASS**
Time: **Sep 10, 2025 07:00 PM Astana, Dhaka**

Description
Recap: **Chain Rule for partial derivatives, Maxima-Minima of Multivariable Fuctions,** New Topics: **Lagrange Multipiers**
--> Join BdREN Zoom Meeting from Laptop or Mobile:
https://bdren.zoom.us/j/2313081916?pwd=qdiZaZxXahPZ9k25qdyxs9lbolJ0I9.1&omn=95532653268

Meeting ID: **231 308 1916**
Password: **savelife**

Add comment

Sakal Roy
Sep 7, 2025 (Edited Sep 7, 2025)

@everyone
ANNOUNCEMENT:

- **MEGA CONSULTATION HOUR_2 +MID TERM SCRIPT CHECKING TIME_2:** TUESDAY, 9 SEPTEMBER, 2025 : 12:00 PM-5:00 PM
  (Those who've missed today don't miss this one, I'll send all results to individuall mail also after everyone checks their scripts on sept 9, 2025)

Add comment

Sakal Roy
Sep 6, 2025

@everyone
dear all,
due to being busy with completing your script checking I couldn't finish uploading assignment 2 yet. will announce the assignment afterwards and increase submission deadline accordingly so that it's convenient for you all. thanks.

2 class comments

Sakal Roy • Sep 7, 2025

see consultation info in details in course info google doc (link given in this classroom earlier at the very beginning).

Sakal Roy
Sep 4, 2025

will start at 11:15 AM.
you all have a task in these 15 minutes. Recall taylor polynomial formula for single variable calculus taguht before mid term.. I'll start directly with multivariable version of taylor polynomial. See you all in class. Best wishes.

Add comment

Sakal Roy
Sep 2, 2025

@everyone
ANNOUNCEMENT:

- **MEGA CONSULTATION HOUR+MID TERM SCRIPT CHECKING TIME:** SUNDAY, 7 SEPTEMBER, 2025 : 12:00 PM-5:00 PM
- **ASSIGNMENT_2:** Will be announced on FRIDAY, 5 September, 2025: Topics: Mathematical Modeling and visualization from multivariate data using multivariable functions. Deadline: FRIDAY, 12 Septmeber,
- **Topics That will be discussed on class at THURSDAY, 4 September, 2025:**Chain rules for partial derivatives + Taylor Expansion of multivariable functions+Maxima and Minima of multivariable functions
- **BRACU cancells academic activity (class+consultation) on SATURDAY, 6 September, 2025.**

So, we'll need 1 or 2 MAKE UP sessions in next week online/offline. Will announce MAKE UP sessions here later.
==========
"Dear All,

Please be informed that the university will remain closed on **Saturday, 06 September 2025** for Eid-e-Miladun Nabi, instead of **Friday, 05 September 2025, due to the moon sighting.**

Best regards,

Office of the Registrar
BRAC University"
==========

Add comment

Sakal Roy
Aug 28, 2025 (Edited Aug 28, 2025)

@everyone:
I'll start the class discussion on partial derivatives an chain rule after 20 minutes later.
In this 20 minutes you've an assignment to solve individually.
Find the natural domain and range of the following multivariable function and comment on their geometrical interpretation (i.e. what kind of curve, surface or geometric object it will show visually once plotted)
f(x,y,z) = ln (x^2+y^2- n. z^2) - ln (x+y-n. z)

- where n is the last digit of your student ID.

You're allowed to use any resources available and e even allowed to discuss in groups but make your own argument and write it down.
See you all in class.

Add comment

Sakal Roy
Aug 21, 2025

@everyone:
I'll start the class 15 minutes later.
In this 15 minutes recall what we've learnt in last classes and write down 5 points individually regarding Multivariable funtions.
Todays discussion will be the last one regarding basic understanding and vsualization of multivariable functions.
Today we'll also learn visually what
partial derivatives are so that we can solve partial derivatives practice sheet problem easily.
See you all in class.

2 class comments

Sakal Roy • Aug 21, 2025
On my way. Got stuck in rain. sorry for the inconveniences. If you're done writing 5 questions regarding multivariable functions watch this one and guess what happens. Harry potter fans don't give spoilers, let other try 😁
https://youtu.be/uT9RdFL4SaE?feature=shared

Add class comment...

Sakal Roy
Aug 17, 2025

@everyone
Announcement for my students of MAT 110, summer 2025:
I'm cancelling offline class of section 20 (3:30 pm-4:50 pm) for tomorrow MONDAY 18 august, 2025 for personal reasons.
The rest of my sections (17 and 04) will have class as usual.
Also, cancelling consultation hour from 2:00 pm-3:30 pm.
The 9:30 am

- 11:00 am consulation hour will be held as usual.
  Will take make class and announce mega consultation hour later.
  Thanks.

Add comment

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Aug 14, 2025

Will start 10 minutes later.
first 10 minutes rewatch the mission impossible clip and try to find if any multivariable concept has beem used or could've been used there.

Add comment

Sakal Roy
Aug 13, 2025

@everyone
FYI:
Dear All,

This is a gentle reminder that on Monday, 18 August 2025, the university will follow the Saturday class schedule, except for PHR classes.

Thank you for your cooperation.

Best regards,

Office of the Registrar
BRAC University

Add comment

Sakal Roy
Aug 12, 2025 (Edited Aug 12, 2025)

@everyone
Dear Students,
Join me in the talk 14 august, 5:00 pm, if you have time. See you all.
https://www.facebook.com/share/p/1AaTUK8k65/

Add comment

Sakal Roy
Aug 10, 2025 (Edited Aug 10, 2025)

@everyone
1) MID TERM ASSIGNMENT (Read carefully & avoid late submission penalties!) :
Google Doc Version (navigate using index):
https://docs.google.com/document/d/1Z0t0EnvB_VfxepMd5QsjYKL1JDjwjPsIooCx9o65x4U/
Or
PDF version: (download and then navigate):
https://drive.google.com/file/d/1GDiZdd_kFDVYibjhqnNRYixFLLR11hDe/view

2) COURSE COORDINATOR'S MSG REGARDING FINAL EXAM TOPICS:
==========

Dear Colleagues,
We are going to cover the following syllabus for the final exam of Summer 2025.

Syllabus for Final Exam:

- Partial derivatives
- Chain rules for partial derivatives
- Maxima and Minima of functions of two variables
- Lagrange Multipliers to find maximum and minimum values
- Taylor expansion (Linear and Quadratic) of functions of two variables
- Conic sections (Parabola, ellipse and hyperbola)
- Conversion of points (Rectangular, Cylindrical and Spherical Coordinates)

Regards,
Sanjeeda Nazneen
Senior Lecturer
Department of Mathematics and Natural Sciences
BRAC University

==========

MAT110_SKY_SUMMER-202... Google Docs
MAT110_SKY_SUMMER-202... PDF

Add comment

Sakal Roy
Aug 9, 2025

@everyone
Resources to study before next class:
RECAP:
https://www.youtube.com/watch?v=MN-0Gzh92GY
WHAT'S NEW:
https://www.youtube.com/watch?v=gsUgDpGWk-M
FUN AND LEARN:
ANSWER THE FOLLOWING 2 QUESTIONS BEFORE WATCHING THESE 2 VIDEOS:
1) If you toss a coin then what is the probability that it shows HEAD?
2) Write a 2-digit prime number in which these 2-digits are also prime numbers?
https://www.youtube.com/watch?v=WBlJuKDxgHc
https://www.youtube.com/watch?v=d6iQrh2TK98&t=178s

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Stream Classwork People

Independent and Depende...
YouTube video • 6 minutes

What are the big ideas of M...
YouTube video • 16 minutes

YouTube video • 2 minutes

YouTube video • 23 minutes

Add comment

Sakal Roy
Aug 7, 2025

@everyone
Dear All, I couldn't take today's class due to my personal emergency.
Extremely sorry for the inconvenience and couldn't let you know earlier.
See you all in the next class.
A resource to watch for you all which I wished to show you in todays class. Enjoy.

Mission Impossible: Ghost ...
YouTube video • 7 minutes

Add comment

Sakal Roy
Jul 29, 2025

@everyone
Dear All,
YOUR MID TERM SCRIPT WILL BE ASSESSED USING THE FOLLOWING MARKING SCHEME:

MID_TERM_MAT_110_SUMMER_2025_SKY_SOLUTION & MARKING SCHEME
https://drive.google.com/file/d/1zMicq6NMT2_YX_rw8dLeYJOTOsSIBjlA/view?usp=sharing

When assessment is done , I'll announce script checking time and date here.
Best Regards
Sakal Roy
Adjunct (Contractual) Faculty, MNS, BRACU

MID_TERM_MAT_110_SUMM...
PDF

Add comment

Sakal Roy
Jul 27, 2025

@everyone
WATCH RECORDING: TIPS AND TRICKS for MID TERM EXAM_SKY
https://bdren.zoom.us/rec/share/QX3f-XDCfzOiDi97PPb0bWQO9I9WfBrQ1CMP4kdzbNtPwroGBhmZXJTk_8s4rNQs.jpXOdHls5wGTOUXX

IN CASE OF ANY MATHEMATICAL OR MEDICAL EMERGENCY BEFORE EXAM CONTACT ME IN EMAIL IMMEDIATELY.
BEST WISHES.

Add comment

Sakal Roy
Jul 26, 2025 (Edited Jul 26, 2025)

Join TIPS AND TRICKS for MID TERM EXAM_SKY

Topic: MAT110
Time: Jul 26, 2025 10:00 PM Astana, Dhaka

--> Join BdREN Zoom Meeting from Laptop or Mobile:
https://bdren.zoom.us/j/2313081916?pwd=qdiZaZxXahPZ9k25qdyxs9lbolJ0I9.1&omn=95590953498

Meeting ID: 231 308 1916
Password: savelife

DISCLAIMER: This will be a short session around 1 hour, onlonly your problems will be discussed, no theory discussion. send me specific problems that you face difficulties here in comment. Hope that helps.
Best wishes.

1 class comment

SAYAN RASHID • Jul 26, 2025
sir would you kindly give us the recording

Add class comment...

Sakal Roy
Jul 25, 2025

@everyone
Resources from todays class:
All Resources are available in given GOOGLE DOC : Course Info: MAT_110_SKY_SUMMER_2025:
https://rb.gy/jgt3q6

- **Rolle's and Mean value theorem:**

WATCH: https://www.youtube.com/watch?v=a2GpXyPWx68
READ AND PRACTICE:

GOOGLE DOC : Course Info: MAT_110_SKY_SUMMER_2025

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You can use the following link to generate a solution by inputting any f(x) and any interval.
*(This way you can check whether your solution is 100% correct) :*https://www.emathhelp.net/calculators/calculus-1/mean-value-theorem-calculator/

Stream Classwork People

- You'll get 'Rolle's theorem' if you put f(a)=f(b) in the 'Mean value theorem'.

Taylor and Maclaurin polynomials and Series for single variable functions:*READ AND PRACTICE: GOOGLE DOC* : Course Info: MAT_110_SKY_SUMMER_2025
*Use this online solver to check your solution:*https://www.emathhelp.net/calculators/calculus-1/taylor-and-maclaurin-series-calculator/

- Tips for Exam:
- Study the formula and procedure of finding the 'Taylor Polynomial' First.
- You'll get 'Taylor Series' by just add a (+...) after the 'Taylor Polynomial'
  (It's just to indicate that it doesn't stop like the Taylor Polynomial).
- You'll get 'Maclaurin Polynomial' if you put x_0=0 in the 'Taylor Polynomial'.
  (Maclaurin Polynomial is just Taylor Polynomial about x=0)
- You'll get 'Maclaurin Series' by adding a (+...) after the 'Maclaurin Polynomial'
  (It's just to indicate that it doesn't stop like the Maclaurin Polynomial).
- You'll get Linear Approximation if you take 1st 2 terms of Taylor Polynomial [that means finding p_1(x)=f(x_0)+f '(x_0).(x-x_0)].

The MEAN Value Theorem i...
YouTube video • 7 minutes

Mean Value Theorem Calcu...
https://www.emathhelp.net/calcula

Taylor and Maclaurin (Powe...
https://www.emathhelp.net/calcula

Course Info: MAT_110_SKY_...
Google Docs

Add comment

Sakal Roy
Jul 24, 2025

Dear All,
I'll be a bit late for an emergency.
Please, wait in the class.
sorry for inconveneince.

Add comment

Sakal Roy
Jul 24, 2025

@everyone
See you all in class tomorrow 24 July, 2025 (THU).
Topics:
Rolles and Mean Value theorem: (20 minutes) Basics discussed in todays make up class, only problem solving wille done tomorrrow.
Maxima-minima: (30 minutes)
Basics discussed in todays make up class. 1st and 2nd derivative tests are same as you've read in HSC/grade 11-12. We need to clear confusion regarding the terms : increasing, decreasing, concave up, concave down, critical point.
Taylor and Maclaurin seires and polynomial: (30 minutes)
Easy if you can do two things:
`i) Differentiate a function n-th times successively.
ii) Find the n-th derivative at any point x=a
iii) Input values of f'(a), f''(a), f'''(a) etc in Taylors polynomial formula.

EXTRA CONSULTATION HOUR:
TOMORROW, 24 JULY, 2025(THU) : 2:00 PM-3:00 PM and 5:00 PM - 6:00 PM

Watch todays Make up Class recording (no attendance for today, pay attention to the recording that'll be all):
https://bdren.zoom.us/rec/share/BbXRf0qlnoAFS8YGR2hSkWjDH7KQjwso7gjk7k2j8wo6L4HM9glU7QuRZrTA9VpE.AnoEX2s6HGxR0hWD

Drawing board(access using draw.io):
https://drive.google.com/file/d/1WNRXfY9MUDjaH6VIbUCcpIhWflRRZQBu/view?usp=drive_link

Important Resources to review:
https://www.youtube.com/watch?v=6CiCSOiSznk
https://www.mathsisfun.com/algebra/absolute-value-solving.html
https://www.youtube.com/watch?v=ySxaqDTcWgk&list=PLlwePzQY_wW9EsqbQzPdJTNGsHYvO_2CJ&index=13
https://www.youtube.com/watch?v=7TGgWs_qCWY&list=PLlwePzQY_wW8P_I8BFgm0-upywEwTKd8_&index=13&t=5s
https://www.youtube.com/watch?v=PG41kUSC0w0&list=PLlwePzQY_wW9EsqbQzPdJTNGsHYvO_2CJ&index=16
https://www.youtube.com/watch?v=7vhux5TLRmQ&list=PLlwePzQY_wW8qiZD6XYqCnibdY37ygbx7&index=2&t=1s

Add comment

Sakal Roy
Jul 23, 2025

MAKE UP CLASS:
Sakal Roy is inviting you to a scheduled BdREN Zoom meeting.

Topic: MAT110
Time: Jul 23, 2025 07:30 PM Astana, Dhaka

--> Join BdREN Zoom Meeting from Laptop or Mobile:
https://bdren.zoom.us/j/2313081916?pwd=qdiZaZxXahPZ9k25qdyxs9lbolJ0I9.1&omn=95590953498

Meeting ID: 231 308 1916
Password: savelife
We'll discuss:
a) Any problem related to limit, contiuity, differentiabiliy (45 minutes): Special focus on Squeeze theorem relate problems as the last fronties and Just a brief Idea of asymptotes.
Comment here about the problems you faced difficulties, or send me in email.
b) Techniques of Differentiation and Successive Differentiation (45 minutes):
Techniques of differentiation is nothin new, its the same differentiation techniques you know from HSC/grade 11-12. Yet, we'll recap so that everyone clears their confusions once and for all.

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Successive Differentiaon parts doesn't include Leibnitz theorem related problems. I've given solution of all the problems in this topic in Course info google doc. Yet, there are some tips and tricks for answering in exam, will show them to all of you for better understnding.

Stream Classwork People

ii) Do you know how to find slope of AB given the coordinates of A and B?
iii) Do you know how to solve quadratic equation ax^2+bx+c=0 given a, b and c?

The class will be recorded and recordings will be given as soon as its available.
Also, no attendance will be taken for make up class. Yet, I'd request not to miss the live discussion.
Best wishes.

Add comment

Sakal Roy
Jul 20, 2025 (Edited Jul 20, 2025)

@everyone

- **COURSE RESOURCES UPDATED FOR MAT110_SUMMER_2025.**
  *Yellow marked parts are not for this semester, use following one to get all in one place for my sections: **04, 17, 20**.*

MAT110_SUMMER_2025_SKY
To share this document to anyone- USE the following link:
https://rb.gy/jgt3q6
or https://docs.google.com/document/d/1f8rNUeZVpRqr5wGd8j3p3Vsv6Y4_idHHVVasZ2_DClo/

- **MEGA CONSULTATION HOUR:**
  You'll not get any officlal consultation hour before MID-TERM since you've elected both slots in SATURDAY.

So, for convenience I'm announcing a **MEGA CONSULTATION HOUR** on:
Today , 20 JULY, 2024 from 9:30 AM- 12:30 PM and 2:00 PM-5:00 PM
Best wishes.

Add comment

Sakal Roy
Jul 20, 2025

ANNOUNCEMENT: CONSULTATION HOUR_SKY_SUMMER_2025:
Based on the given vote on the poll of my 3 sections: sec 04, 17, 20, the following 2 slots has been selected as consultation hour.
(a) SAT: 9:30 am - 11:00 am (got 14 vote)
(b) SAT: 2:00 pm- 3:30 pm

(got 18 vote)
Thank you for expressing your opinion by participating in the voting.

```
a) SAT: 9:30 am - 11:00 am:1+1+10+2=14
b) SAT: 2:00 pm- 3:30 pm:1+1+1+1+3+11=18
c) SAT: 5:00 pm - 6:30 pm:0+0=0
d) THU: 9:30 am - 11:00 am:1+5+2=8
e) THU: 2:00 pm- 3:30 pm:1+1=2
f) THU: 5:00 pm - 6:30 pm:0+0=0
g) propose any other day and time slot:
 any other day 11:00am+Sun/Tues:Anytime
+Sun/Tue(After 11am)
```

Poll_Consultaion Hour_SKY_7_20_2025.png

1 class comment

MIR MD SHANJID HOSSAIN • Jul 20, 2025
Option b

Add class comment...

Sakal Roy
Jul 19, 2025

Watch this Class recording(no attendance for today, pay attention to the recording that'll be all)
https://bdren.zoom.us/rec/share/Dwx2E2MHS5PSHQQa6wOPYunOBciOCYzYtkvfiBWhoR4S9I6laMgqIkqc0hRZt3kd.W0AqUSb8jMhfhR_I

drawing board(access using draw.io):
https://drive.google.com/file/d/1SdwvZXNb8Y3Ii-JggEMPLKR1As_AQbN3/view?usp=drivesdk

Add comment

Sakal Roy
Jul 19, 2025

@everyone
Sakal Roy is inviting you to a scheduled BdREN Zoom meeting.

Topic: MAT 110
My class schedule is: **(If you miss one sections' online class, you can join another)**
SEC-17: 11:00 AM - 12:20 PM
SEC-04: 12:30 PM - 1:50 PM
SEC-20: 3:30 PM - 4:50 PM

--> Join BdREN Zoom Meeting from Laptop or Mobile:
https://bdren.zoom.us/j/2313081916?pwd=qdiZaZxXahPZ9k25qdyxs9lboIJ0I9.1&omn=97538240127
Meeting ID: 231 308 1916
Password: savelife

Add comment

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Jul 18, 2025

@Msg from BRACU (I'll send online meeting link here)
==========
Dear Students and Colleagues,

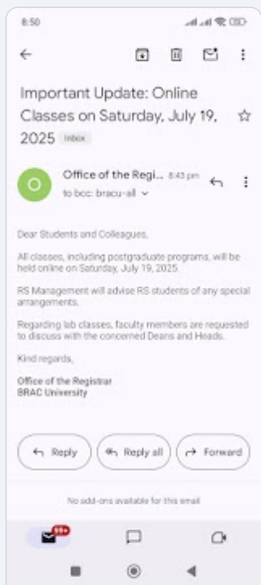
All classes, including postgraduate programs, will be held online on Saturday, July 19, 2025.

RS Management will advise RS students of any special arrangements.

Regarding lab classes, faculty members are requested to discuss with the concerned Deans and Heads.

Kind regards,

Office of the Registrar
BRAC University



18 Jul 2025 at 20:...

Add comment

Sakal Roy
Jul 17, 2025

Dear All,
The lecture will start 15 minutes after the scheduled time.
These first 15 minutes is allocated for the following things:
1) Join the group communication link of your section. Make sure your all of your section mates joins in the respective group communication medium (slack/google classroom). Help them by forwarding this mail incase they didn't get this mail for some reason.

2) Discuss yourself and Vote for Consultation hour to one or multiple time slots given below which are favourable to you.
I'll announce 2 slots (total 3 hours) for consultation based on the votes from all my sections. show it to your sectionmates,
a) SAT: 9:30 am - 11:00 am
b) SAT: 2:00 pm- 3:30 pm
c) SAT: 5:00 pm - 6:30 pm
d) THU: 9:30 am - 11:00 am
e) THU: 2:00 pm- 3:30 pm
f) THU: 5:00 pm - 6:30 pm
g) propose any other day and time slot

5 class comments

MAHIR SHAHRIAR • Jul 18, 2025
(b) and (g) Sun/Tue(After 11am)

Add class comment...

Sakal Roy
Jul 16, 2025

@everyone
Here's the Course Coordinator's msg and attached mat 110 cpurse outline for Summer 2025. Read these carefully and point out any part which you don't understand or have any query/confusion.
==========
Dear esteemed colleagues,
Hope this email finds you well. For your convenience, I have attached the course outline.

The mark distribution for MAT 110:
Attendance = 5%
Assignment = 15%
Quiz = 25%
Midterm = 20%
Final = 35%
Total = 100%

Drive link for reference books:
https://drive.google.com/drive/folders/1R6Od2MYszWQiTh46efku2Rc_K6iuxG_D?usp=drive_link

Drive link for practice problems:
https://drive.google.com/drive/folders/1dHL4TyqNYR22brwj9XyDzFvGIkkXbgvI?usp=drive_link

We are going to cover the following syllabus for the midterm:

- Limits, L' Hopital's rule and Continuity
- Differentiability and Techniques of Differentiation
- Successive Differentiation
- Maxima and Minima, Roll's and Mean value theorem
- Taylor and Maclaurin polynomials and Series for single variable functions

If you have any questions or queries, please inbox me.

Regards,Sanjeeda NazneenSenior LecturerDepartment of Mathematics and Natural SciencesBRAC University

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https://docs.google.com/document/d/14XdbF2DGq0fvOM4NMdb6sN0Qb4pdIMYx/edit?usp=drivesdk&ouid=105583045678850140714&rtpof=true&sd=true

MAT110 Course Outline Su...
Microsoft Word

Add comment