Teaching plan

Various variable functions
Q1/2020

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Class code: DIBCN0407-15SA
Shift: diurno

1. Menu
Double and triple integrals. Changing of variables. Integration in polar, cylindrical and spherical coordinates. Applications in the calculation of areas and volumes.

2. Approximate schedule

Here, you can find lesson-by-lesson content planning. Note that this is only a forecast, and then (except for exam and exam dates) it may changes and updates without prior notice.

Date	Activity
20/04	Double integrals over rectangular regions and Iterated integrals
27/04	Double integrals over non rectangular regions

04/05	Double integrals in polar coordinates
11/05	Applications of double integrals and Area of surface
18/05	Triple integrals
25/05	Triple integrals in cylinders and spherical coordinates
01/06	Change of variable in triple integrals

3. didactic strategies

- Uploading the PDF version of the notes of the class through Moodle.
- Uploading each week, a video teaching the topics of each week and doing several examples in details, through Moodle.
- The students can send their doubts by email and once a week a video will be uploaded through Moodle answering their doubts.
- To control the presence, students should send an email after each video confirming that they received and watched the video.

4. Evaluations

There are two writing tests written on two consecutive Tuesday. The dates will be selected later.

test I: **Double and triple integrals and applications (probably 09/06)**
test II: **Derivative, limit and continuity (probably 16/06)**

• Substitute tests (ST) will be on the first Thursday after Test II (probably 18/06) and recovery test (REC) on the first Tuesday after PS (probably 25/06).

1. **ST** will be offered only to students who are unable to attend on the day of the Test (Test I or II) and justify their absence under the terms of RESOLUÇÃO CONSEPE Nº 227, DE 23.
2. **REC** intended for students whose preliminary averages are less than C.

- The tests (Test I and II) has a value from 0 to 10 and the final average will be calculated:

$$FA = \frac{P1+P2}{10}$$

and the concept will be obtained according to the following table

Média Final	Conceito
$8.5 \leq FA \leq 10$	A
$7 \leq FA < 8.5$	B
$5 \leq FA < 7$	C
$4.5 \leq FA < 5$	D
$0 \leq FA < 4.5$	F

- • The RT concept will be calculated according to the table above and then the new average as:

RT	FA	New mean
A	D or F	**C**
B	D	**C**
B	F	**D**
C	D or F	**D**

- RT's D or F concept has no effect on the previous final concept.

5. Office hours

Answering the doubts	Receiving debts by email and recording a video answering questions
E-mail:	Hengameh.r@ufabc.edu.br
General page of the discipline:	http://gradmat.ufabc.edu.br/disciplinas/fvv/
Lists of Exercises:	http://gradmat.ufabc.edu.br/disciplinas/fvv/listas/

6. Bibliografy

Basic bibliography

- J. D. Stewart, Multivariable Calculus, 7th Edition, chapter 14 and 15, pdf and pdf
- H. L. Guidorizzi, Um Curso de Cálculo, Volumes 2 e 3 (5a. edição). LTC, 2001, 2002

- H. Anton, Cálculo, Volume 2 (8a. edição). Bookman, 2007
- T. M. Apostol, Calculus, Volume II – Second Edition. Wiley, 1969. here

Supplementary bibliography

- G. B. Thomas, Calculus, Volume 2, Pearson, 2003
- Cláudio Mendes (icmc-usp) – Cálculo 2 Diferencial
- Cláudio Mendes (icmc-usp) – Cálculo 2 Integral
- J. E. Marsden, A. J. Tromba, Vector Calculus (4a. edição). W. H. Freeman & Co., 1996
- W. Kaplan, Cálculo Avançado, Volume I. Edgard Blücher, 1991
- C. H. Edwards, Jr., D. E. Penney, Cálculo com Geometria Analítica, Volumes 2 e 3 (4a. edição). Prentice-Hall, 1997

Some useful links on youtube to watch some online courses based on Steward's book:

Chapter 14

Chapter 15