



# Teaching plan

## Analytical Geometry Q3/2019 *Majid Forghani*

**Course code:** DI1BCN0404-15SA

**Section:** Day class

### **1. Ementa**

Vectors: Vector operations, Linear combination, Linear dependence and independence; Bases; Coordinate systems; Inner and vector product; Mixed product. Lines and plans; Relative positions between lines and plans. Distances and angles. Ellipse: equation and graph; Parabola: equation and graph; Hyperbola: equation and graph. General equation of the second degree.

## 2. Approximate Schedule

Here, you can find lesson-by-lesson content planning. Note that this is only a forecast, and so (except exams' dates) it may be changed and updated without previous notice.

<b>Date</b>	<b>Topics</b>
24/09	Vectors: concept and the operations
1/10	Vectors: concept and the operations
8/10	Linear dependence and independence
10/10	Bases and coordinate systems
15/10	Inner and vector product; Mixed product
22/10	<b>Exercises</b>
24/10	<b>Test I</b>
29/10	Lines and plans: Parametric and symmetric equations of a line.
5/11	Lines and plans: Vector and parametric equations of a plane.
7/11	Lines and plans: Intersection of two planes and more discussion.
12/11	Relative positions between lines and plans.
19/11	Distances and angles.
21/11	Conics: ellipse, parabola, hyperbola (equations and graphs)
26/11	General equation of the second degree.
3/12	<b>Exercises</b>
5/12	<b>Test II</b>
10/12	<b>Substitute Test (ST)</b>
23/12	<b>REC</b>

### 3. Evaluation

We have two written tests on the dates:

**Test I: 24/10**

**Test II: 05/12**

- **Substitute Test (ST)** will be held on **10/12** and **REC** on **23/12**.
- 1. ST will be only offered to the students who cannot attend on the day of the tests (I or/and II) and justify their absence according to RESOLUÇÃO CONSEPE N° 227, DE 23.
- 2. REC will be considered only for the students whose primary average is less than **C**.
- The tests T1 and T2 are marked from 0 to 10 and the final average (FA) will be calculated as follows.

$$FA = \frac{5*T1+7*T2}{12}$$

And “**conceito**” will be determined according to the following table.

Final Average	Conceito
$8.5 \leq FA \leq 10$	A
$7.0 \leq FA < 8.5$	B
$5.0 \leq FA < 7.0$	C
$4.5 \leq FA < 5.0$	D
$0.0 \leq FA < 4.5$	F

- The “conceito” of REC will be also determined similarly, and then the new average is obtained following the table below.

REC	FA	New Average
A	D ou F	C
B	D	C
B	F	D
C	D ou F	D

- Please notice that the “conceito” **D** or **F** in REC does not effect on FA.

## 4. Office hours

**Time and Place:** Mondays, 15:00 – 18:00, Office 534-2  
**E-mail:** [forghaniufabc@gmail.com](mailto:forghaniufabc@gmail.com)  
**General page of Discipline:** <http://gradmat.ufabc.edu.br/disciplinas/ga/>  
**Lists of Exercises:** <http://gradmat.ufabc.edu.br/disciplinas/ga/listas/>

## 5. Bibliography

### Basic Bibliography

1. Ivan de Camargo e Paulo Boulos, Geometria Analítica: Um tratamento vetorial.
2. Dorival A. De Mello e Renate G. Watanabe, Vetores e uma iniciação à Geometria Analítica; editora livraria da fisica.
3. Elon Lages Lima, Geometria Analítica e Álgebra Linear – Publicação Impa.

### Complementary Bibliography

1. Charles Wexler, Analytic geometry – A vector Approach; Addison Wesley 1964.
2. Reginaldo Santos, Um Curso de Geometria Analítica e Álgebra Linear.
3. Charles Lehmann, geometria analítica, Editora Globo 1985.
4. Dan Pedoe, Geometry: A Comprehensive Course; Dover Books on Mathematics, 2013.