



UNIVERSIDADE FEDERAL DO CEARÁ

**FEDERAL UNIVERSITY OF CEARÁ
OFFICE OF THE VICE PROVOST FOR UNDERGRADUATION (PROGRAD)
COORDINATION FOR PROJECT AND CURRICULUM DEVELOPMENT
CURRICULUM DEVELOPMENT DIVISION**

1. Academic unit offering the curricular component (Faculty, Center, Institute, Campus):

Center of Sciences

2. Department offering the curricular component (when applicable):

Physics Department

3. Undergraduate course(s) offering the curricular component

Code of the Course	Name of the Course	Course Degree ¹	Curriculum (Year/Semester)	Nature of the Component ²	Semester of Offer ³	Habilitation ⁴
91	Telecommunications Engineering	Bachelor	2015.1	Mandatory	01	-

4. Name of the curricular component:

Experimental Physics for Engineers

5. Code of the curricular component (filled by PROGRAD):

CD0328

6. Prerequisites

No ()

Yes (x)

Code

Name of the curricular component / activity

7. Corequisite

No (x)

Yes ()

Code

Name of the curricular component / activity

8. Equivalences

No (x)

Yes ()

Code

Name of the curricular component / activity

9. Day period of the curricular component (more than one option can be selected):

(x) Morning

(x) Afternoon

(x) Night

¹ Fill with *Bachelor (Engineer), Licenciante, or Technologist.*

² Fill with *Mandatory, Optional, or Elective.*

³ Fill when mandatory.

⁴ When elective, fill with the habilitation or emphasis to which the curricular component is linked.

10. Regime of the curricular component: Semester Yearly Modular**11. Justificatory for the creation/regulamentation of this curricular component**

Since Physics is a science of essential character and foundation for the understanding of diverse branches of knowledge, this course gives students a fundamental and general view of Physics.

12. Objectives for the curricular component:

1. Introduce the experimental method.
2. Give an insight into the interrelationship between theory and practice.
3. Familiarize the student with basic measures instruments.

13. Syllabus:

Basic measurement instruments, mechanical experiments, acoustics, thermology. Electrical measurements.

14. Scheme

1. Measuring instruments: caliper and micrometer.
2. Mechanics experiments: simple pendulum, uniformly varied rectilinear motion, equilibrium.
3. Experiment in fluid statics: Archimedes principle and densimetry.
4. Experiment in acoustics: determining the speed of sound in the air.
5. Heat experiment: thermal expansion, calorimetry and specific heat determination.
6. Basic instruments of electrical measurements: ohmmeter, voltmeter and ammeter.

15. Workload description

Number of Weeks:	Number of Credits:	Total Workload in Hours:	Theory Workload in Hours:	Practice Workload in Hours:
32	02	32	-	32

16. Basic bibliography:

- 1- Roteiros de Práticas, N. L. Dias, apostila.

17. Complementary bibliography:

- 1- Halliday, D. e Resnick, R – Fundamentos de Física, Vol. 1, 2 e 3 – Livros Técnicos e Científicos – 4a edição – São Paulo, 1991;
- 2- Halliday, D. e Resnick, R. – Física – Vol. 1, 2 e 3 Livros Técnicos e Científicos – 4a edição, São Paulo, 1984.