COURSE DESCRIPTION

ACADEMIC CENTER **ROBERTO ALCANTARA GOMES BIOLOGY INSTITUTE**	DEPARTMENT **DEPARTMENT OF ANATOMY**		
COURSE NAME **PRINCIPLES AND APPLICATIONS OF EXPERIMENTAL METHODS IN BIOMEDICAL SCIENCES II**	( ) CORE COURSE (**X**) OPTIONAL COURSE	HOURS 30	CREDITS 2

PROGRAM / PROJECT NAME	DISTRIBUTION OF HOURS		
PHYSIOPATHOLOGY AND SURGICAL SCIENCES Key Focus Area: Urogenital System	TYPE OF CLASS	HOURS	N. OF CREDITS
	THEORETICAL	30	2
	PRACTICAL		
	TOTAL	30	2

PREREQUISITES	
PRINCIPLES AND APPLICATIONS OF EXPERIMENTAL METHODS IN BIOMEDICAL SCIENCES I	( ) Master's program course (x) Doctorate's program course

COURSE DESCRIPTION

PRINCIPLES AND APPLICATIONS OF EXPERIMENTAL METHODS IN BIOMEDICAL SCIENCES II.

Biochemistry.

This course briefly presents the fundamentals and applications of the main methods of structural biology, biochemistry and molecular biology used in biomedical science research. This knowledge will allow graduate students, especially those who do not work specifically with one or more of the aforementioned methods, to: (1) understand, in general terms, how results of morphology, biochemistry and molecular biology described in original papers are obtained; (2) thus have a better understanding of the experimental plan used to answer the questions raised in a scientific work; and (3) to know that certain aspects of their own projects can be better clarified through methods of structural biology, biochemistry or molecular biology. The following topics will be covered in the course: Notation and numerical precision; units of measure, Centrifugation, spectroscopic, chromatographic and electrophoretic methods, Use and measurement of radioisotopes, Enzymology, Purification of the main
biological compounds.

BASIC BIBLIOGRAPHY

1. Bishop ML, Duben-Engelkirk JL, Fody EP: Clinical Chemistry. Principles, Procedures, Correlations. 3rd ed. Philadelphia, Lippincott, pp. 773, 1996.
2. Bolag DM, Rozycki MD, Edelstein SJ: Protein Methods. New York, John Wiley, pp. 415, 1996.
3. Chang R: Physical Chemistry for the Chemical and Biological Sciences. California, Univ Sci Books, pp. 1018, 2000.
4. Chaplin MF, Kennedy JF: Carbohydrate Analysis. 2nd ed. IRL Press, pp. 324, 1994.
5. Henry JB: Clinical Diagnosis and Management by Laboratory Methods. 19th ed. Philadelphia, Saunders, pp.1556, 1996.
6. Morrison RT, Boyd RN: Organic Chemistry. 5th ed. Boston, Allyn and Bacon, pp. 1434, 1987.
7. Slater RJ: Radiosotopes in Biology. Oxford, IRL Press, pp. 307. 1993.
8. Wedding ME, Toenjes SA: Medical Laboratory Procedures. 2nd ed. Philadelphia, F.A. Davis Co, pp. 427, 1998.

PROGRAM / PROJECT COORDINATOR	
DATE	SIGNATURE