COURSE DESCRIPTION

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

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

PREREQUISITES	(X) Master's program course (X) Doctorate's program course

COURSE DESCRIPTION

PRINCIPLES AND APPLICATIONS OF EXPERIMENTAL METHODS IN BIOMEDICAL SCIENCES I. Structural Biology.

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: (a) light microscopy; (b) transmission and scanning electron microscopy; (c) histochemistry and immunohistochemistry; (d) in situ hybridization; (e) digital image processing; (f) basic notions of morphometry.

BASIC BIBLIOGRAPHY

1. Steer MW. Understanding cell structure. Cambridge University Press, 1981.
2. Beesley JE. Immunocytochemistry. IRL Press, 1993.
3. Souza W. Técnicas básicas de microscopia eletrônica aplicadas às ciências biológicas. UENF, 1998.
4. Kreis T, Vale R. Guidebook to the extracellular matrix and adhesion proteins. Oxford University Press, 1993.

PROGRAM / PROJECT COORDINATOR	
DATE	SIGNATURE