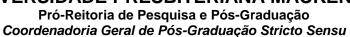


UNIVERSIDADE PRESBITERIANA MACKENZIE





SCHOOL PLAN

University Unit:		
Engineering school		
Graduate program: Geospatial Sciences and Applications		
Curse:		
Academic Master	Professional	Master's ⊠ Doctorate degree
Discipline : Cosmology and Quasars		
Teacher (s): Luiz Cláudio Lima Botti		
Note:		
The Geospatial Science and Applications Program is multidisciplinary, encompassing research in several lines. The disciplines of the Program reflect this multidisciplinarity and require, many times, several professors, specialists in different topics, studied in the disciplines.		
Workload: 48 h	Credits 4	Required Optional Eleffective
Description:		
Study of cosmology's observational context: Radiation, Hubble expansion, dark matter, large-scale		
structure. Theory of Gravitation. The cosmological models. The thermal history of the Universe.		
Big Bang Nucleosynthesis. Inflationary Cosmology. Formation of galaxies. Fluctuations of the		
cosmic microwave background radiation. Evolution of Galaxies. Evolution of the rate of star		
formation and the abundance of the elements. Properties of quasars and their observational		
characteristics. Quasar variability models across the electromagnetic spectrum. Similarities		
between quasars and active galaxy nuclei and BL Lacertae objects.		
Program content:		
List of themes, subjects and concepts that will be studied in the stage. Evaluation criteria		
According to the General Regulation of Stricto Sensu Post-Graduation, Art. 98:		
A - excellent: corresponds to grades in the interval between grades 9 and 10;		
B - good: corresponds to grades in the interval between grades 8 and 8.9;		
C - regular: corresponds to grades in the interval between grades 7 and 7.9;		

R - disapproved: corresponds to grades in the interval between degrees 0 and 6.9 "



UNIVERSIDADE PRESBITERIANA MACKENZIE

Pró-Reitoria de Pesquisa e Pós-Graduação Coordenadoria Geral de Pós-Graduação Stricto Sensu



Bibliography:

An Introduction to the Science of Cosmology", Raines, D. e Thomas, T., IOP Publishing, 2001.

Quasar Astronomy. Weedman, D.W. Cambridge Astrophysics Series, 1986

Introduction to Cosmology, Ryden, B., Addison Wesley, 2003

Modern Cosmology, Dodelson, S., Academic Press, 2003.

The Universe: A Biography. Penguin Group. Gribbin, J.,2005

Einstein Gravity in a Nutshell. Princeton University Press. Zee, A., 2013.

Beams and Jets in Astrophysics. Cambridge Astrophysics Series, 19. Hughes, P.A., 1991.

Teoria do Campo, Landau, L., Lifchitz, E., Hemus-Livraria Editora,

Einstein's General Theory of Relativity, with Modern Applications in Cosmology", Grøn Ø. e Hervik, S., Springer, 2007.

Physical Foundations of Cosmology", Mukhanov, V., Cambridge University Press. 2003.

Fundamentals of Cosmology", Rich, J., Springer, 2001.

Cosmology - The Origin and Evolution of Cosmic Structure", Coles, P. e Lucchin, F., Wiley, 1995. Beams and Jets in Astrophysics", Hughes, P.A., Cambridge Astrophysics Series, 1991.

The Philosophy of Space and Time, Dover Publications, INC, New York. Reichenbach, H. 1958

Date Theme