FEDERAL UNIVERSITY OF CEARÁ
Provost Office of Research and Graduate Studies

COURSE PROGRAM

1. PROGRAM:	
GRADUATE PROGRAM IN CHEMISTRY	
2. COMPONENT TYPE:	
Activity ( ) **Course (X)** **Module ( )**	
3. LEVEL:	
Master´s Degree (**X**) Doctorate (**X**)	
4. COMPONENT IDENTIFICATION:	
Name:	ADVANCED INORGANIC CHEMISTRY
Code:	CEP9511
Hours:	160
Credits:	10
Optional course:	Yes ( ) No (X)
Compulsory course:	Yes (X) No ( )
Area:	
5. PROFESSOR:	
Profa. Dra. Izaura Cirino Nogueira Diógenes Prof. Dr. Luis Gonzaga de França Lopes	
6. ABSTRACT:	
The course provides the students with a comprehensive study of inorganic chemistry based on symmetry and group theory applied to the construction of molecular orbitals for the understanding of the bonding theories of coordination compounds. Particular emphasis is placed on the interpretation of vibrational (Raman and infrared) and electronic spectra.	
7. COURSE PROGRAM:	
1. Symmetry and group theory 2. Group theory and bonding theories for coordination compounds 3. Molecular spectroscopy (vibrational) 4. Molecular spectroscopy (electronic)	
8. EVALUATION PROCESS:	
Exams, seminars, and workouts	
9. BIBLIOGRAPHY:	
1. Inorganic Chemistry, Principles of Structure and Reactivity. James E. Huheey, Ellen A. Keiter, Richaard L. Keiter. 4th Ed., 1997 by Harper Collins College Publishers 2. Molecular Symmetry and Group Theory. Alan Vincent, 1977, by John Wiley and Sons Ltd. 3. Symmetry and Structure. S. F. A. Kettle, 3rd Ed., 2007, by John Wiley and Sons Ltd. 4. Inorganic Chemistry. G. L. Miessler, P. J. Fischer, D. A. Tarr. 5th Ed.,2014, by Pearson. 5. Ligand Field Theory and Its Applications. B. N. Figgs, M. A. Hitchman, in Special Topics in Inorganic Chemistry. Wiley-VCH, 2000.	

6. Concepts and Models in Inorganic Chemistry. B. E., Douglas e D. H. McDaniel, John Wiley & Sons, INC, 1994.
7. Group Theory for Chemistry. G. Davidson, 1ª Ed. Macmillan, 1991.
8. Chemical Applications of Group Theory. F. A. Cotton, 2ª Ed. Wiley-Interscience, New York, 1965.
9. Cientific articles.