

Syllabus	PHYS 416 ExtraGalactic Astronomy & Cosmology	UMBC 2013 Spring
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<i>Credits</i>	3 credits								
<i>Alt. Title</i>	None								
<i>Pre-requisite</i>	PHYS304 (C or higher)								
<i>Co-requisite</i>	None								
<i>Catalog Entry</i>	<i>"An advanced study of extragalactic astronomy and cosmology, including evidence for the Big Bang and the expanding universe, the very early universe, inflation theories, the formation of light elements in the early universe, and the thermal history of the universe. It will also include a study of the fluctuations of the cosmic microwave background radiation, the development of primordial fluctuations under gravity, the effect of dark matter on the formation of large-scale structure in the universe, and the measurement of the cosmological parameters."</i>								
<i>Course Overview</i>	Cosmology, the study of the Universe, its birth and evolution, is currently experiencing a tremendous renaissance, mostly due to the plethora of new observations such as the observations of the Cosmic Microwave Background (CMB) by instrumentation such as on NASA's WMAP satellite. This introduction to modern cosmology discusses the big bang, the expanding Universe and the basic cosmological parameters describing it, the dynamics of our Universe, dominated by some unspecified dark matter and dark energy, arguments for an early inflationary period, the formation of light elements in the early universe, and the wealth of information we extract from measurements of the CMB.								
<i>Course Objectives</i>	By the time the semester is over, the students should have . <ol style="list-style-type: none"> 1. A basic knowledge of the current paradigm and its observational underpinnings 2. An appreciation of some of the outstanding issues and limitations of our knowledge 								
<i>Lectures</i>	Monday & Wednesday 09:00-10:15 Physics Room 226 Jan 27 – May 14								
<i>Textbook(s)</i>	<i>Galaxy Formation</i> (2 nd Ed) by Malcom S. Longair Spinger, ISBN 978-3-540-73477-2								
<i>Other Materials</i>	None (beyond a means to take effective notes)								
<i>Instructor</i>	Dr. Ian M George <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Office</td> <td>Physics Room 410</td> </tr> <tr> <td>Office Hours</td> <td>Mon/Weds 10:30-11:30</td> </tr> <tr> <td>Phone</td> <td>1-410-455-1518</td> </tr> <tr> <td>E-mail</td> <td>ian.george@umbc.edu</td> </tr> </table>	Office	Physics Room 410	Office Hours	Mon/Weds 10:30-11:30	Phone	1-410-455-1518	E-mail	ian.george@umbc.edu
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<i>TA/Grader</i>	None								

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<i>Grading</i>	Weekly Quizzes	30%
<i>Summary</i>	Mid-Term Exam	30%
	Final Exam	40%

Course WWW sites UMBC Blackboard and
<http://www.jca.umbc.edu/~george/html/courses/phys416/2013Spg/index.shtml>

Detailed Schedule A *provisional* schedule will posted on a link from the above WWW page at the start of the semester.