

Faculty Council on Academic Affairs Curricular Cleanup 2009  
**Form for Streamlining pre-2008 Courses Through Full Governance**

Email completed form and most current syllabus to: Sabrina Guth <s-guth1@neu.edu>. Also print completed form, collect departmental signatures, and mail to Sabrina in the Faculty Senate Office. This form is only valid for use through 10/15 2009 and only may be used for pre-2008 courses that have not been reviewed through full governance.

**Current Course:**  
 Math  Advanced Topics In Operations Research: Time Series Analysis   
*dept prefix number course title credit hrs*

**Proposed Course (must be same level and have same credit hours):**  
 Math  Advanced Topics In Operations Research: Time Series Analysis   
*dept prefix number course title*

**Abbreviated Course Title (79 character limit if full title is longer):**  
 Time Series Analysis

Ave. weekly contact hrs: #  Is this course repeatable?  YES NO  Required for the major? YES NO  YES NO  Is course restricted by student level, major, or counts for graduate credit, etc.?  YES NO

If yes, explain:

Categories (check all that apply; default categories are checked for Academic Affairs purposes):

<input type="checkbox"/> Discussion	<input type="checkbox"/> Lab	<input type="checkbox"/> Practice Teaching	<input type="checkbox"/> Tutored Study
<input type="checkbox"/> Field Experience	<input checked="" type="checkbox"/> Lecture	<input type="checkbox"/> Studio	<input type="checkbox"/> Video Conferen
<input type="checkbox"/> Hybrid	<input type="checkbox"/> Master's Project	<input type="checkbox"/> Self Study	
<input type="checkbox"/> Independ Study	<input type="checkbox"/> Online	<input type="checkbox"/> Student Teaching	
<input type="checkbox"/> Internship	<input type="checkbox"/> Practicum	<input type="checkbox"/> Thesis Seminar	

**Course Description (to appear in the Academic Catalog: 100 word limit):**

**Prerequisite(s):**

Provide short paragraph narrative explanation of the origins of the course and its significance to the program:

Signatures:

<i>Chair/Coordinator</i> <input type="text"/>	<i>date</i> <input type="text"/>
<i>2<sup>nd</sup> Departmental Faculty Member</i> <input type="text"/>	<i>date</i> <input type="text"/>
<i>FCIA Chair</i> <input type="text"/>	<i>date</i> <input type="text"/>
<i>Provost</i> <input type="text"/>	<i>date</i> <input type="text"/>

<b>CLASS:</b>	<b>Advanced Topics In Operations Research: Time Series Analysis, Math 473C, Summer 2009</b>
<b>INSTRUCTOR:</b>	Dr. Marian Gidea
<b>LECTURE:</b>	MW 4:30pm - 8:00pm, SCI-242
<b>OFFICE:</b>	Science Building 204D
<b>CONTACT:</b>	E-mail: <a href="mailto:mgidea@neu.edu">mgidea@neu.edu</a> Office phone: (773) 442-5779, Cell phone: (312) 933-0696
<b>OFFICE HOURS:</b>	MW 3:00pm - 4:30pm
<b>TEXT:</b>	Chaos and Time-Series Analysis. By Julien Clinton Sprott. Oxford University Press, Oxford,UK & New York, USA. 2003.
<b>CLASS DESCRIPTION:</b>	This course is an introduction to the exciting new developments in chaos and related topics in nonlinear dynamics, including the detection and quantification of chaos in experimental data. Emphasis will be on the physical concepts rather than mathematical proofs and derivations. The course will be taught at a level that should be accessible to graduate and advanced undergraduate students in all fields of science and engineering.
<b>PREREQUISITE:</b>	Graduate standing or consent of instructor.
<b>COURSE OUTLINE:</b>	Chapters 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 from textbook. Not all sections in these chapters will be covered.
<b>PERFORMANCE OUTCOMES/GOALS:</b>	Students who successfully complete this course should be able to perform the following: <ol style="list-style-type: none"> <li>1. Analyze the behavior of complex dynamical systems.</li> <li>2. Analyze experimental time-series.</li> <li>3. Use computer programs to produce simulations of dynamical systems.</li> <li>4. Create and analyze mathematical models of physical systems.</li> <li>5. Make prediction on the evolution of physical systems.</li> </ol>
<b>MULTIPLE ASSESSMENT INSTRUMENTS:</b>	<ul style="list-style-type: none"> <li>• <b>EXAMINATIONS:</b></li> <li>• <b>Four class projects:</b> 100 points each project.</li> <li>• <b>EXTRA CREDIT POINTS:</b> for class participation.</li> <li>• <b>GRADES:</b> A 350+; B 300+; C 250+; D 200+.</li> </ul>
<b>MAKE-UP TESTS:</b>	Make up tests will be given in case of illness verified by a note from a physician or a death in your family.
<b>RECOMMENDATIONS:</b>	<ul style="list-style-type: none"> <li>• Attendance and participation in the lecture class is recommended.</li> <li>• You are expected to read the textbook for comprehension.</li> <li>• The following software will be used: MAPLE, Dynamics Solver, Excel, and others.</li> </ul>
<b>MISCELLANEOUS:</b>	<ul style="list-style-type: none"> <li>• The instructor reserves the right to make any changes he considers academically advisable. These eventual changes will be announced in class.</li> <li>• The students are expected to adhere to accepted standards of academic integrity. These may be found in the Student Handbook. It is the student's responsibility to be aware of behaviors that constitute academic dishonesty.</li> <li>• Last day to drop a course: Friday, July 31.</li> </ul>