1. Course ID
   Neural Time Series Analysis; ISC 5930; 3 credit hours

2. Course Prerequisites
   systems neuroscience

3. Course Logistics
   Term: Spring 2017
   Course Web Site: http://www.ccs.fau.edu/~bressler/EDU/NTSA/NTSA.html
   Location; time: FL 426; W 04:00PM-06:50PM

4. Instructor Contact Information:
   Dr. Steven Bressler
   Office: BS 304
   Phone: 7-2227
   Email: bressler@fau.edu
   Office Hours: W 03:00PM-04:00PM

5. No TA

6. Course Description
   This course is intended to give the student a strong understanding of the neural
   basis of electrocortical data such as the EEG, MEG, etc., of the principles and
   concepts necessary to record such data, and

7. Course Objectives
   The student is expected to gain a working understanding of the genesis of
   electrocortical data, of the principles and concepts necessary to record such data,
   and advanced methods for its analysis.

8. Course Evaluation Method
   Performance in the course is evaluated by the total course score, which is
determined as a weighted sum of 3 components: midterm exam (40%); final exam
(40%); attendance & participation (20%).

9. Course Grading Scale
   The final letter grade in the course is derived from the total course score
according to the following scale:
   A        92-100
   A-       89-91
   B+       86-88
   B        83-85
   B-       79-82
   C+       75-78
   C        70-74
   C-       65-69
10. Reasonable Accommodation Statement for Makeups
   Reasonable accommodation will be made for students participating in a religious
   observance or in University-approved activities, including athletic or scholastics
   teams, musical and theatrical performances and debate activities.

11. Out-of-Classroom Requirements
   This course involves 50 minutes of in-classroom instruction for each credit hour
   per week, and a minimum of two hours of out-of-classroom assignments each
   week for 15 weeks. To master the material covered in this course it is
   expected that the student will spend a minimum of two hours per week per credit
   hour on the out-of-classroom assignments.

12. Classroom Etiquette Policy
   Students are expected to show respect to all other students and to the instructor at
   all times. Students who do not adhere to this policy will be asked to leave the
   classroom so as not to disturb the other students.

13. Disability Policy Statement
   In compliance with the Americans with Disabilities Act (ADA), students who
   require special accommodation due to a disability to properly execute coursework
   must register with the Office of Students with Disabilities (OSD) – in Boca Raton,
   SU 133 (561-297-3880); in Davie MOD 1 (954-236-1222); in Jupiter, SR 117
   (561-799-8585); or at the Treasure Coast, CO 128 (772-873-3305) – and follow
   all OSD procedures.

   Students at Florida Atlantic University are expected to maintain the highest
   ethical standards. Academic dishonesty is considered a serious breach of these
   ethical standards, because it interferes with the university mission to provide a
   high quality education in which no student enjoys an unfair advantage over any
   other. Academic dishonesty is also destructive of the university community,
   which is grounded in a system of mutual trust and places high value on personal
   integrity and individual responsibility. Harsh penalties are associated with
   academic dishonesty. For more information, see University regulation 4.001 at

15. Required Text
   None

16. Supplementary Readings
   The list of supplementary readings is found at:
   http://www.ecs.fau.edu/~bressler/EDU/NTSA/Readings.htm
17. Course Topical Outline

Jan 11  Neural Generators & The Model Neuron
Jan 18  Electrical Generation & EEG Genesis
Jan 25  Time Series Data Acquisition
Feb  1  Time Series & Random Processes
Feb  8  Signal Estimation
Feb 15  Covariance Analysis
Feb 22  Spectral Analysis
Mar  1  Midterm Exam (4:00pm)
Mar  8  Spring Break – No Class
Mar 15  Power Spectra & Bandwidth-Limited Time Series
Mar 22  Spectral Leakage
Mar 29  Power Spectral Estimation
Apr  5  Cross Spectral Analysis
Apr 12  Digital Filtering & Linear Modeling
Apr 19  MVAR Spectral Analysis
May  3  Final Exam (4:00pm)