15.992 – Networks and Organization: Syllabus

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
SLOAN SCHOOL OF MANAGEMENT

15.992: Networks and Organization
Syllabus
Fall 2008

Instructor
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1. INTRODUCTION

This seminar is intended to provide students with an intermediate level of familiarity with methods used in the quantitative study of social networks and the role that they play in organizing society. The seminar is divided into two related modules. The first module focuses on the development of a set of tools and methods for assessing different kinds of relational structures in networks. In these sessions, we will focus on diving deep into the application of particular methods, and consider how these methods have been applied in the context of studying specific organizational phenomena. In the second module we will explore how a variety of network methods have been applied in the context of organizational research, with a focus on critical assessment of these applications.

2. PREREQUISITES

This seminar is open to any Ph.D. student at MIT. Other students are welcome to contact the instructor regarding participation in the course. While this is not an introductory course in social networks, there are no formal prerequisites. That said, some basic familiarity with social network methods and empirical research will be helpful to most students, as will some basic familiarity with quantitative statistical methods and linear algebra. While not necessary, concurrent enrollment in a graduate-level introductory social network analysis course should provide more than a sufficient background to students for whom this is new material.

3. READING MATERIALS

There are no required textbooks for this class—all readings should be available for download from online sources through the course website. However, there are several books that students may find useful as references:

4. GRADING AND REQUIREMENTS

The class will be graded as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Pre-class memos</td>
<td>25%</td>
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<tr>
<td>Class Participation</td>
<td>15%</td>
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<tr>
<td>Final Paper</td>
<td>60%</td>
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4.1. Pre-class memos

Unless otherwise noted, every student is required to submit a two-page memo critically discussing the assigned reading for the session. Well-written memos will address at least the following questions:

- What structural features of networks are addressed by all or most of these papers? Why are these features important to the study of networks and/or social organization?
- What mechanisms explain these features?
- For empirical work: how well do the network measures used match the theoretical constructs in the paper? Are there reasonable measures that would have been more useful?
- In what ways do these papers make claims that contradict one another? That support one another?

Memos for each week must be posted to the course website by 5:00pm Tuesday on the evening before class. Students are allowed to miss a memo for one week with no grade penalty.

4.2. Class Participation

Students are expected to have read all of the required articles for class and be prepared to discuss them both constructively and critically. To this end, students are expected to read memos posted to the course website by their classmates before coming to class.

4.3. Final Paper

Each student is required to write a final paper in which they perform an empirical analysis in which social network analysis plays a central role. Students are encouraged to view this as an opportunity to produce a publication-quality paper. The paper should be approximately 15-20 double-spaced pages in length.

A two-page proposal describing the basic question to be addressed in the paper and potential data sources is due on Wednesday, October 29th, 2008. The final paper is due on Wednesday, December 10th, 2008.
5. SCHEDULE OF SESSIONS AND READINGS

Class 1: September 3rd, 2008

**Introduction**

*Optional reading:*
de Noor, et. al.: 1-57.

Class 2: September 10th, 2008

**Dyads in Networks: Symmetry and Asymmetry**

*Optional reading:*
Wasserman & Faust: 505-555.
Class 3: September 17th, 2008

**Triads: Building Blocks of Group Structure**


Optional reading:


Class 4: September 24th, 2008

**Complete Networks: Non-Local Structure**


Optional reading:

- de Noor, et. al.: 138-160
Class 5:  
October 1st, 2008

**Networks and Role Structures**


*Optional reading:*

de Nooy, et. al.: 259-291.


Class 6:  
October 8th, 2008

**Network Dynamics**


*Optional reading:*

Class 7: 
October 15th, 2008

Cognitive Networks


Class 8: 
October 22nd, 2008

Inference and Network Structure


Optional reading:


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Class 9: Networks and Group Process
October 29th, 2008

Class 10: Networks and Labor Markets
November 5th, 2008

Optional reading:
Class 11:
November 12th, 2008

Networks, Performance and Competition


Class 12:
November 19th, 2008

Networks, Technology and Innovation


**Networks and the Global Economy**


*Optional reading:*


**Wrap Up**

Class 14:
December 10th, 2008