APPLICATION FOR NEW COURSE

1. General Information.

a. Submitted by the College of: Business and Economics Today's Date: 9/28/2011

b. Department/Division: Management

c. Contact person name: Dan Brass Email: dbrass@uky.edu Phone: 7-4260

d. Requested Effective Date: ☒ Semester following approval OR ☐ Specific Term/Year[1] : _____

2. Designation and Description of Proposed Course.

a. Prefix and Number: MGT 780

b. Full Title: Advanced Social Network Analysis

c. Transcript Title (if full title is more than 40 characters): Adv. Social Network An.

d. To be Cross-Listed[2] with (Prefix and Number): _____

e. Courses must be described by <u>at least one</u> of the meeting patterns below. Include number of actual contact hours[3] for each meeting pattern type.

_____ Lecture _____ Laboratory[1] _____ Recitation _____ Discussion _____ Indep. Study

_____ Clinical _____ Colloquium _____ Practicum _____ Research _____ Residency

3 Seminar _____ Studio _____ Other – Please explain: _____

f. Identify a grading system: ☒ Letter (A, B, C, etc.) ☐ Pass/Fail

g. Number of credits: 3

h. Is this course repeatable for additional credit? YES ☐ NO ☒

If YES: Maximum number of credit hours: _____

If YES: Will this course allow multiple registrations during the same semester? YES ☐ NO ☐

i. Course Description for Bulletin: The focus of this course is on the theoretical concepts and methodology of social network analysis, both from a research and applied perspective. The course involves in-depth training in the hands-on analysis of social network data using specialized social network analysis software.

j. Prerequisites, if any: Consent of instructor

k. Will this course also be offered through Distance Learning? YES[4] ☐ NO ☒

l. Supplementary teaching component, if any: ☐ Community-Based Experience ☐ Service Learning ☐ Both

3. Will this course be taught off campus? YES ☐ NO ☒

4. Frequency of Course Offering.

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[1] Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

[2] The chair of the cross-listing department must sign off on the Signature Routing Log.

[3] In general, undergraduate courses are developed on the principle that one semester hour of credit represents one hour of classroom meeting per week for a semester, exclusive of any laboratory meeting. Laboratory meeting, generally, represents at least two hours per week for a semester for one credit hour. (from *SR 5.2.1*)

[4] You must *also* submit the Distance Learning Form in order for the proposed course to be considered for DL delivery.

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a. Course will be offered (check all that apply): ☐ Fall ☒ Spring ☐ Summer

b. Will the course be offered every year? YES ☒ NO ☐

If NO, explain: _____

5. Are facilities and personnel necessary for the proposed new course available? YES ☒ NO ☐

If NO, explain: _____

6. What enrollment (per section per semester) may reasonably be expected? 20

7. Anticipated Student Demand.

a. Will this course serve students primarily within the degree program? YES ☒ NO ☐

b. Will it be of interest to a significant number of students outside the degree pgm? YES ☒ NO ☐

If YES, explain: Doctoral students in all of the social sciences may find this course interesting and helpful.

8. Check the category most applicable to this course:

☐ Traditional – Offered in Corresponding Departments at Universities Elsewhere

☒ Relatively New – Now Being Widely Established

☐ Not Yet Found in Many (or Any) Other Universities

9. Course Relationship to Program(s).

a. Is this course part of a proposed new program? YES ☐ NO ☒

If YES, name the proposed new program: _____

b. Will this course be a new requirement[5] for ANY program? YES ☐ NO ☒

If YES[5], list affected programs: _____

10. Information to be Placed on Syllabus.

a. Is the course 400G or 500? YES ☐ NO ☒

If YES, the *differentiation for undergraduate and graduate students must be included* in the information required in ***10.b***. You must include: (i) identification of additional assignments by the graduate students; and/or (ii) establishment of different grading criteria in the course for graduate students. (See *SR 3.1.4.*)

b. ☒ The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from ***10.a*** above) are attached.

[5] In order to change a program, a program change form must also be submitted.

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Signature Routing Log

General Information:

Course Prefix and Number: MGT 780

Proposal Contact Person Name: Dan Brass Phone: 7-4260 Email: dbrass@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
Department Faculty	10/20/08	Dan Brass / 7-4260 / dbrass@uky.edu	
Graduate Studies Committee	11/11/08	Scott Kelley / 7-3425 / skelley@uky.edu	
Gatton Faculty	11/24/08	Merl Hackbart / 7-8939 / mhackbart@uky.edu	
		/ /	
		/ /	

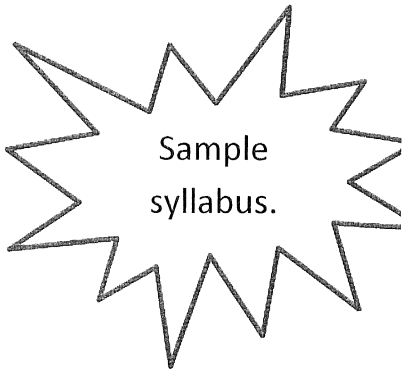
External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[6]
Undergraduate Council			
Graduate Council		Dr. Brian A. Jackson Digitally signed by Dr. Brian A. Jackson DN: cn=Dr. Brian A. Jackson, o=University of Kentucky, ou=Graduate School, email, c=US Date: 2011.12.07 10:35:53 -05'00'	
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

This course was originally submitted in November 2008, with another new course and a course change. MGT 780 was lost in the process. Therefore, we are resubmitting the course for approval.

[6] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.



MGT 780 001
Social Network Analysis
Fridays 2-5pm, B&E 446
www.analytictech.com/mb780

Prof. Steve Borgatti
B&E 455Y, sborgatti@uky.edu, 257-2257

COURSE DESCRIPTION

This is a PhD level course on social network analysis. The focus is both theoretical (e.g., what are the key concept of social network analysis) and methodological (e.g., how do we actually carry out research on social networks). What the course is **not** is a survey of social network research to date (we have a separate course for that taught by Prof. Dan Brass). The course begins with a definition of a social network and a review of key concepts from the underlying mathematical field of graph theory. We then move on to dyadic concepts in network analysis, such as the notion of graph-theoretic distance. Next we cover node-level concepts, such as centrality and ego-network structure. Next we cover whole-network level concepts, such as network density. The end of the course is devoted to issues of research design and methodology, including data collection and analysis techniques.

GOALS AND OUTCOMES

This is a hands-on course with the objective of teaching a student how to do a network analysis. At the end of this course, a student should be able design and implement a social network analysis research project, including analyzing the data and writing up the results for a journal. The key deliverable for the course is a publishable research paper.

REQUIRED MATERIALS

The textbook for this course is Wasserman and Faust, 1994 Social Network Analysis. Cambridge. This is an indispensable reference book, but difficult to read from front to back. Suggested readings from the book will be assigned, but there will be no required readings from it. All of the required readings are articles, chapters and handouts, which are given in the schedule. Links to all the readings can be found on the class website at www.analytictech.com/mgt780.

CONTENT OUTLINE

Week 1. Overview. Our first meeting provides an overview of the field as a whole. Readings consist of recent reviews of the field along with some classic papers on the nature of the field.

Week 2. Mathematical Foundations. This week focuses on learning the terminology and fundamental concepts of graph theory and (elements of) matrix algebra, both of which are foundation fields for social networks.

Week 3. Software and Visualization. In this week, you are introduced to the software, and learn how to visualize network data.

Week 4. Whole networks. This module is about characterizing the shape and structure of whole networks.

Week 5. Ego-network Analysis I. An introduction to ego-network analysis, including both data collection and analysis. We also discuss the concept of individual-level social capital.

Week 6. Ego-network Analysis II. Advanced ego-network techniques, including longitudinal analysis.

Week 7. Centrality I. Introduction to the concepts and measurement of node centrality, including degree, closeness, betweenness and eigenvector centrality.

Week 8. Centrality II. Advanced measures of centrality including walk-based measures of centrality, induced centralities and group centralities. Centrality is contrasted with power.

Week 9. Cohesive Subgroups. Techniques for clustering networks to find communities and subgroups.

Week 10. Equivalence. Concepts of structural, automorphic and regular equivalence are discussed, along with the general enterprise of finding structural roles.

Week 11. Statistical Methods. An introduction to the special statistical methods used in network analysis to overcome autocorrelation and other challenges to classical statistical methods.

Week 12. Network Dynamics. A series of techniques for analyzing changes in social networks over time.

Week 13. Survey Data Collection. A discussion of the special issues involved in collecting network data.

ASSIGNMENTS AND GRADING

Grading for this course is based on just two things: (1) a research paper (worth 75% of your grade), and (2) class participation (worth 25%). There are no exams in this course.

Research Paper (75%). For the paper, you must design and implement an empirical study of social networks. While you are not required to submit this paper to a journal for publication, it should be of publishable quality and written up in *Academy of Management Journal* format. Copies of past (successful) papers are available on the class website. The paper is due via email on the last day of class, April 30th, before 2pm.

Class Participation (25%). I expect active participation in the classroom. My hope is that you will want to participate because we will be discussing interesting ideas. The abilities to interact with your colleagues effectively, to contribute to a group discussion, and to advocate an informed position are essential skills that will prepare you for the transition to a professional career. Your participation grade is based on your preparedness for class (e.g., having read the assigned reading), demonstration of a firm grasp of material covered, a willingness to seek clarification as appropriate, and the ability to integrate concepts and multiple perspectives. I will grade your participation according to the following criteria:

- the frequency and quality of your contributions to classroom activities
- the frequency and quality of your answers to the case discussion questions

- the quality of your feedback to presentations of other students
- the assessment provided by your fellow team members of your contribution to team assignments and discussions

The correspondence between letter grades and numerical percentages is as follows:

Letter	Percentage Range
A	90 – 100%
B	80 – 89%
C	70 – 79%
F	0 – 69%

SCHEDULE

The final paper is due via email on the last day of class, April 30th, before 2pm.

Date	Topic
15-Jan	Introduction
22-Jan	Mathematical Foundations
29-Jan	Visualization
5-Feb	Characterizing whole networks
12-Feb	Ego Network Analysis I
19-Feb	Ego Network Analysis II
26-Feb	Centrality I
5-Mar	Centrality 2
12-Mar	Cohesive subgroups
19-Mar	< spring break >
26-Mar	Equivalence
2-Apr	Statistical methods
9-Apr	Network change
16-Apr	Survey Data Collection
23-Apr	Conclusion
30-Apr	Presentations -- in class, 20 min each

COURSE POLICIES

As a PhD course, attendance is not strictly required, but it is expected (and necessary for a good participation grade). I would appreciate being notified ahead of time if you are not going to be attending any particular class.

You have a responsibility to maintain the highest **standards of academic integrity** in both individual and group work, and to comply with the University of Kentucky policy on academic integrity. Any instances of cheating or plagiarism will be subject to the disciplinary procedures of the University. Please speak to me if you have any questions about academic integrity or concerns about any classmate's behavior. Please bring any ethical questions or concerns to me before submitting an assignment or participating in

an activity (such as in-class exams and activities). Two general rules of thumb: When in doubt about using material, make sure you cite it. When in doubt about collaborating, sharing, etc., don't do it without checking with me.

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.