Proposal Form For Addition And Revision Of Courses

1. Proposing College / School: Liberal Arts
   Department: Sociology, Anthropology and Social Work

2. Course Prefix and Number: SOCY 5310/6310
3. Effective Term: Fall 2014

4. Course Title: Advanced Methods of Information and Cyber Analysis
   Abbreviated Title (30 characters or less): 

5. Requested Action:
   - [ ] Renumber a Course
   - [x] Add a Course
   - [ ] Revise a Course
   - Current Course Number: 
   - Proposed Course Number: 
   - Type of Revision: 

6. Course Credit:
   Contact/Group Hours | Scheduled Type (e.g.: Lab, Lecture, Practicum, Directed Study) | Weekly or Per Term? Credit Hours | Anticipated Enrollment
   Maximum Hours (Repeatability): 3 | Lecture | Weekly | 3 | 30

7. Grading Type:
   - [ ] Regular (ABCDF)
   - [x] Satisfactory/Unsatisfactory (S/U)
   - [ ] Audit
   Total Credit Hours: 3

8. Prerequisites/Corequisites:
   Use "P:" to indicate a prerequisite, "C:" to indicate a corequisite, and "P/C:" to indicate a prerequisite with concurrency.
   P=SOCY 1000, SOCY 5120 (or SOCY 6120), or Department Approval.
   Junior Standing for 5310. Graduate Standing for 6310.

9. Restrictions: List specific restriction in space above.
   - [ ] College
   - [ ] Major
   - [x] Standing
   - [ ] Degree

10. Course Description:
    (20 Words or Less; exactly as it should appear in the Bulletin)
    Application of methods and techniques of information analysis and related report writing.

11. May Count Either: SOCY 5310 or SOCY 6310
    (Indicate if this particular course cannot be counted for credit in addition to another)

12. Affected Program(s):
    (Respond "NA" if not included in any program; attach memorandum if more space is required)
    | Program Type | Program Title | Requirement or Elective? |
    |-------------|---------------|--------------------------|
    | Major       | BA/MA Sociology | Elective                 |
    | Minor       | Information and Cyber Analysis (Proposed) | Elective                 |

13. Overlapping or Duplication of Other Units' Offerings:
    (If course is included in any other degree program, is used as an elective frequently by other unit(s), or is in an area similar to that covered by another college/school, attach correspondence with relevant unit)
    - [ ] Applicable
    - [x] Not Applicable
14. Justification:

This course will be offered as an elective in the proposed undergraduate minor in Information and Cyber Analysis. The minor is a component of the Cyber Initiative, one of the six strategic initiatives identified in the AU Strategic Plan.

(Include a concise, yet adequate rationale for the addition/revision of the course, citing accreditation, assessments (faculty, graduate, and/or external) where applicable)

15. Resources:

No additional resources required.

(Indicate whether existing resources such as library materials, classroom/laboratory space, and faculty appointments are adequate to support the proposed addition/revision; if additional resources are required, indicate how such needs will be met, referencing the appropriate level of authorization — i.e.: Dean — where necessary; if no additional resources or shifting of resources will be necessary, respond "Not Applicable")

16. Student Learning Outcomes:

Course Objective 1: Students will demonstrate the ability to apply methods of information analysis to various problem sets.

Course Objective 2: Students will utilize oral and written communication skills to demonstrate mastery of methods and analytical techniques of information analysis.

The work products for the course are closely tied to the objectives listed above. Timeline analysis charts require the student to compile, organize, and present detailed information on the respective topic. One or more of the timeline charts may be included in the course research project, which requires the student to demonstrate a high level of expertise in critical thinking, synthesizing the literature related to the topic area of interest, data analysis, as well as written and oral communication.

(State in measurable terms (reflective of course level) what students should be able to do when they have completed this course)

17. Course Content Outline:

Required Texts/Books:

Undergraduates:

Six Degree – The Science of a Connected Age by Duncan J. Watts.

Best Truth – Intelligence in the Information Age by Berkowitz and Goodman.

Six Degrees – The Science of a Connected Age by Duncan J. Watts.

Graduates:

Best Truth – Intelligence in the Information Age by Berkowitz and Goodman.

Communicating with Intelligence by James S. Major.

Liars and Outliers: Enabling the Trust that Society Needs to Thrive by Bruce Schneier.

Supplementary Reading:

Additional sources will be assigned throughout the semester to correspond to specific class discussions.

Tentative Course Outline – Teaching modules follow the reading topics.

Week 1 - Course Overview and Requirements

Networks and Synchrony
Security Briefing: If not current, students will be required to sign up for Intelligence Oversight Certification Training during this class session. Training and submission of training certificate must be completed by week 3. Students will not be allowed to enter the Secure Laboratory unaccompanied until this training is completed and training certificate has been submitted to the instructor.

Reading assignment:
Watts – Chapt. 1.
Major – Chapt. 1 (Graduate Students)

Week 2 – Social Networks
Reading assignments:
Watts – Chapt. 2.
Major – Chaps 2-3 (Graduate Students)

Week 3 – Small Worlds
Reading assignments:
Watts – Chapt. 3.
Major – Chapt 4-5 (Graduate Students)

Week 4 – Small Scale Networks and Group Structure
Reading assignments:
Watts – Chapt. 4
Major – Chapt. 6 (Graduate Students)
Linkage Chart and Briefing 1 due.

Week 5 – Searching in Networks
Reading assignments:
Major – Chapt 7, 9 (Graduate Students)

Week 6 – Epidemics and Failures
Reading assignments:
Watts – Chapt. 6
Berkowitz and Goodman – Chapter 1 (Graduate Students)
Major – Chaps 10-11 (Graduate Students)

Week 7 – Social Decision Making, Information Cascades
Reading assignments:
Watts – Chapt. 7
Berkowitz and Goodman – Chapter 2 (Graduate Students)
Major – Chapt 12 (Graduate Students)
Linkage Chart and Briefing 2 due.

Week 8 – Thresholds, Cascades and Predictability
Reading assignments:
Watts – Chapt. 8
Berkowitz and Goodman – Chapter 2 (Graduate Students)
Major – Chapt. 13 (Graduate Students)

Week 9 – Ambiguity and Multi-scale Networks
Reading assignments:
Watts – Chapt. 9
Berkowitz and Goodman – Chapter 3 (Graduate Students)
Major – Chapt. 14 (Graduate Students)

Week 10 – September 11 – An Intelligence Failure
Reading assignments:
Watts – Chapt. 10-11
Berkowitz and Goodman – Chapter 4 (Graduate Students)
Additional material from the 9-11 report: (Graduate Students)
Linkage Chart and Briefing 3 due.
Week 11 – Adversaries in a Connected Age

Reading assignments:
Watts – Chapt. 10-11
Berkowitz and Goodman – Chapter 6 (Graduate Students)
Additional material from the 9-11 report. (Graduate Students)

Week 13 – Final Presentation Preparation
Week 14 – Student Presentations
Week 15 – Research papers due. Student Presentations (continued)

(Provide a comprehensive, week-by-week breakdown of course content, including assignment due dates)

18. Assignments / Projects:

Linkage Charts/Research Briefs. Each student will prepare four Linkage Analysis Charts and accompanying intelligence brief based on in-class tasks and exercises. Charts and briefs will be prepared according to a standard template and consist of 1. Summary; 2. Findings; 3. Gaps; 4. Supporting documents. All briefs must be turned in by the final class meeting.

Research Paper:

This assignment requires you to demonstrate mastery of your chosen topic area and analysis of it. The nature of your chosen topic will influence the approaches utilized (linkage analysis, content analysis, social network analysis, etc.). At a minimum, your research paper will include:

1. Topic Overview and Literature Review
2. Methodological Plan
3. Findings and Analysis
4. Discussion and Conclusions
5. Incorporation of relevant material from Berkowitz and Goodman (2000) Major (2008), Schneier (2012) books (Graduate Students Only)

As appropriate, your research will include timeline analysis charts.

Undergraduate: The Research Paper shall consist of a briefing paper (15-20 pages, including supporting documentation) and an annotated one paragraph bulleted summary. Topics must be approved by the instructor. Due on last class day.

Graduate: The Research Paper shall consist of a briefing paper (25-30 pages, including supporting documentation) and annotated one page bulleted summary. You are expected to demonstrate your familiarity with the subject area material and present a thorough analysis of it. Relevant information from the Berkowitz and Goodman (2000), Major (2008), and Schneier (2012) books (additional reading assignments for graduate students) must be included and discussed in relation to your topic of interest. Topics must be approved by the instructor. Due on last class day.

Additional information and details will be distributed throughout the semester.

Presentation:

In lieu of a traditional format for the final exam (with approval from the Office of the Provost), all students will prepare and give an oral presentation that summarizes their efforts throughout the semester on the
This assignment will require the student to demonstrate knowledge of both the topic of interest as well as analytical approach(es) utilized. The presentation assignment will include a question/answer element led by the course instructor.

Undergraduate: Students will prepare and give a 10-15 minute informational presentation on their semester focus. Each presentation should include power point slides and a handout giving an overview of the most important information.

Graduate: Students will prepare and give a 30 minute presentation on their semester focus. Each presentation should include power point slides and a handout giving an overview of the most important information. The accompanying question/answer component will consist of a panel led by the course instructor and will include other invited guests as appropriate (e.g. faculty members, agency personnel).

Attendance/Participation: Much of the information and learning cannot be accomplished outside of the scheduled class time. Therefore class attendance is critical for understanding the course material and for mastering analytical process/techniques. Participation in class discussions and group meetings is also a vital part of the learning process for each student. Students are allowed one unexcused absence. Each subsequent unexcused absence will result in a reduction of one letter grade for the course.

Note: The above policy in regard to unexcused absences is based on the initial plan to have the class meet once per week.

(List all quizzes, projects, reports, activities and other components of the course grade – including a brief description of each assignment that clarifies its contribution to the course's learning objectives)

<table>
<thead>
<tr>
<th>19. Rubric and Grading Scale:</th>
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<tbody>
<tr>
<td><strong>Undergraduate:</strong></td>
</tr>
<tr>
<td>Linkage Charts/Research Briefs</td>
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<tr>
<td>Presentation</td>
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<td>Research Paper</td>
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<td>Total</td>
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</tbody>
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Course grades will be determined on a 10 percentage point scale. A≥90%, B≥80%, C≥70%, D≥60%, F≤60%.

(List all components of the course grade – including attendance and/or participation if relevant – with point totals for each; indicate point totals and ranges or percentages for grading scale; for S/U grading, detail performance expectations for a passing grade)

<table>
<thead>
<tr>
<th>20. Justification for Graduate Credit:</th>
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<tbody>
<tr>
<td>Graduate students are responsible for additional assigned readings. They will be required to specifically include information from these selections in their research paper and demonstrate their understanding of it. This final project for graduate students is more in depth and requires demonstration of critical thinking and analytical skills at a higher level than what is expected for undergraduate students.</td>
</tr>
</tbody>
</table>

(Include a brief statement explaining how the course meets graduate educational standards (i.e.: rigorous standards for evaluation, development of critical thinking and analytical skills, etc.))
(Included below are standard statements regarding course policies. If necessary, a statement may be altered to reflect the academic policies of individual faculty members and/or the academic unit or department, provided that there is no conflict with the Student Policy eHandbook, Faculty Handbook, or any existing university policy.)

POLICY STATEMENTS

Attendance: Although attendance is not required, students are expected to attend all classes, and will be held responsible for any content covered in the event of an absence.

Excused Absences: Students are granted excused absences from class for the following reasons: illness of the student or serious illness of a member of the student's immediate family, the death of a member of the student's immediate family, trips for student organizations sponsored by an academic unit, trips for university classes, trips for participation in intercollegiate athletic events, subpoena for a court appearance, and religious holidays. Students who wish to have an excused absence from class for any other reason must contact the instructor in advance of the absence to request permission. The instructor will weigh the merits of the request, and render a decision. When feasible, the student must notify the instructor prior to the occurrence of any excused absences, but in no case shall such notification occur more than one week after the absence. Appropriate documentation for all excused absences is required. Please consult the Student Policy eHandbook for more information on excused absences.

Make-Up Policy: Arrangement to make up a missed major examination (e.g.: hour exams, mid-term exams) due to properly authorized excused absences must be initiated by the student within one week of the end of the period of the excused absence(s). Except in unusual circumstances, such as the continued absence of the student or the advent of university holidays, a make-up exam will take place within two weeks of the date that the student initiates arrangements for it. Except in extraordinary circumstances, no make-up exams will be arranged during the last three days before the final exam period begins.

Academic Honesty Policy: All portions of the Auburn University student academic honesty code (Title XII) found in the Student Policy eHandbook will apply to university courses. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

Disability Accommodations: Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternate time can be arranged. To set up this meeting, please contact me by e-mail. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TTY).
SOCY5310/6310 (3 Hours)
Advanced Methods of Information and Cyber Analysis

Syllabus

Class: TBA

Classroom: Airport Cyber Classroom

Instructor:
Greg S. Weaver
7056 Haley Center
844-5040
weavegs@auburn.edu

Prerequisites:
Undergraduate: SOCY 1000; SOCY 5120; Junior Standing.
Graduate: SOCY 6120 or Consent of Instructor; Graduate Standing.

Graduate Credit Justification:
Materials presented and pace of class are rigorous. Students will be expected to possess basic critical and analytical skills developed during their undergraduate education and have the capability of understanding relevant literature and participate in robust discussions. Assigned readings and research projects exceed what is expected of undergraduate students.

Course Overview:
This course provides an in-depth review and application of analytical approaches and techniques for relevant topic areas in both the public and private sectors.

Objectives:

- Familiarize the structure and function of advanced techniques of analysis, spanning business, government and law enforcement.
- Present and practice various tools for
  - Linkage Analysis
  - Time-Line Analysis
  - Predictive Analysis
  - Social Network Analysis
  - Sentiment Analysis
- Problem Set Dossier Production
- Geospatial coding of data
- Imagery Analysis
- Large Data Importation
- Reading Intelligence Publications Critically
- Communication of Findings Through the Intelligence Brief
  - Writing a Thesis Statement
  - Writing a Summary Paragraph
  - Avoiding Passive Voice and Wordiness
  - Types of Intelligence Writing
    - Descriptive
    - Explanatory
    - Estimative

Required Texts/Books:

Undergraduates:

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*Best Truth – Intelligence in the Information Age* by Berkowitz and Goodman.

Graduates:

*Six Degree – The Science of a Connected Age* by Duncan J. Watts.

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Supplementary Reading:

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**Graduate:** Students will prepare and give a 30 minute informational presentation on their semester focus. Each presentation should include power point slides and a handout giving an overview of the most important information.

**Attendance/Participation:** Much of the information and learning cannot be accomplished outside of the scheduled class time. Therefore class attendance is mandatory for understanding the course material and mastering the necessary techniques. Participation in class discussions and group meetings is also a vital part of the learning process for each student.

**Readings:** Articles and Chapters will be assigned to correspond to discussion topics.

**NOTE:** Each unexcused absence (as outlined in student handbook) will result in a one-letter grade reduction in the overall course grade.

**Grading:** The overall course grade is based on the following distribution:
Linkage Charts/Research Briefs 120 points
Presentation 050 points
Attendance/Participation 030 points
Research Paper 100 points

Total 300 points

Course grades will be determined on a 10 percentage point scale. A≥90%, B≥80%, C≥70%, D≥60%, F≤60%.

Plagiarism or any form of academic dishonesty will be handled according to university guidelines. Students are expected to adhere to all ethical and legal requirements associated with information analysis, human subjects issues, etc.

Accommodations:

Any student needing accommodations (as per the Americans with Disabilities Act) should schedule a meeting with the Instructor as soon as possible. Please contact the Program for Students with Disabilities, 1288 Haley Center, 844-2096 (V/TT).

Make Up Policy:

Make up work will be allowed only with excused absences, as outlined in the Tiger Cub.

Communication: Your Auburn University email address (userid@auburn.edu) will be used for course communication. It is your responsibility to contact the Information Technology Help Desk to have this address forward email to the e-mail address that you regularly check.

Tentative Course Outline – Teaching modules follow the reading topics.

Week 1 - Course Overview and Requirements
Networks and Synchrony

Security Briefing

If not current, students will be required to sign up for Intelligence Oversight Certification Training during this class session. Training and submission of training certificate must be completed by week 3. Students will not be allowed to enter the Secure Laboratory unaccompanied until this training is completed and training certificate has been submitted to the instructor.

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Major – Chapt. 1

**Week 2 – Social Networks**

Reading assignments:

- Watts – Chapt. 2.
- Major – Chaps 2-3

**Week 3 – Small Worlds**

Reading assignments:

- Watts – Chapt. 3.
- Majors – Chapt 4-5

**Week 4 – Small Scale Networks and Group Structure**

Reading assignments:

- Watts – Chapt. 4
- Majors – Chapt. 6

Linkage Chart and Briefing 1 due.

**Week 5 – Searching in Networks**

Reading assignments:

- Major – Chapt 7, 9

**Week 6 – Epidemics and Failures**
Reading assignments:

Watts – Chapt. 6

Berkowitz and Goodman – Chapter 1

Major – Chapts 10-11

**Week 7 – Social Decision Making, Information Cascades**

Reading assignments:

Watts – Chapt. 7

Berkowitz and Goodman – Chapter 2

Major – Chapts 12

Linkage Chart and Briefing 2 due.

**Week 8 – Thresholds, Cascades and Predictability**

Reading assignments:

Watts – Chapt. 8

Berkowitz and Goodman – Chapter 2

Major – Chapt. 13

**Week 9 – Ambiguity and Multi-scale Networks**

Reading assignments:

Watts – Chapt. 9

Berkowitz and Goodman – Chapter 3

Major – Chapt. 14

**Week 10 – September 11 – An Intelligence Failure**

Reading assignments:
Watts – Chapt. 10-11

Berkowitz and Goodman – Chapter 4

Additional reading assignments from the 9-11 report.

Linkage Chart and Briefing 3 due.

**Week 11 – Adversaries in a Connected Age**

Reading assignments:

Watts – Chapt. 10-11

Berkowitz and Goodman – Chapter 5

Additional reading assignments from the 9-11 report.

**Week 12 – Adversaries in a Connected Age**

Reading assignments:

Berkowitz and Goodman – Chapter 6

Additional reading assignments from the 9-11 report.

**Week 13 – Final Presentation Preparation**

**Week 14 – Student Presentations**

**Week 15 – Research papers due. Student Presentations (continued)**