BIS 390: The Research Process

"Tell me and I forget. Show me and I remember. Involve me and I understand."
-Chinese Proverb

Spring 2009, Section 004   Instructor: Ellen Oh

Overview

The purpose of this course is to provide an overview of the research process and to give you experience with that process. The course also serves as a vehicle for you to begin to pursue your own research project. Your overall assignment will be to demonstrate mastery of the various components of the research process via various assignments that you will work on throughout the term. Your grade will be based on the thoroughness with which you prepare each assignment and document your work as well as your contributions to class discussions and engagement in the exploratory research process. The success of this course depends greatly on how well you prepare for and participate in each class discussion. It is recommended that you take this course at least two semesters prior to the term in which you plan to complete your thesis or project. BIS 390 requires that you have (1) a faculty adviser for your BIS 490 thesis/project, and (2) a BIS education contract approved by both your adviser and the BIS director, and 3) taken and passed English 302.

For many students, this course creates a great deal of stress and anxiety. Please read through the syllabus and course requirements. Please make sure you feel you have the time and can meet ALL of the BIS requirements to successfully complete this course.

Learning Objectives

The objectives of this class are to:
* develop an understanding of how the research process works;
* demonstrate the ability to construct, frame, and communicate a focused research topic in various contexts, particularly in written form and in oral presentation;
* demonstrate skill in gathering information from a variety of sources appropriate to academic research including oral (interviews), print, multi-media, and on-line sources;
* evaluate, analyze, synthesize, and organize your research in order to examine your topic from an interdisciplinary approach and to create new knowledge or understanding based on your analysis;
* construct a draft research proposal to present to your BIS faculty advisor and the BIS Program Director;
* gain experience in peer teaching/learning and develop a background in critiquing the research of others; and
* demonstrate the ability to be reflective and self-evaluative throughout the research process.

Required Materials:

* *The Craft of Research.* Wayne Booth, Gregory Colomb, and Joseph Williams.

- *Visual and Statistical Thinking: Displays of Evidence for Making Decisions*. Edward Tufte.

- *Bird by Bird: Some Instructions on Writing and Life*. Anne Lamott.

- *Traffic*. Steven Soderbergh, dir. (video). (you can rent this)

- *"Effective Writing Text: Reflective Writing."*, Trupe, Alice, L. (Aug 29, 2001). http://www.bridgewater.edu/~atrupe/ENG101/Text/Reflection.htm

- *The Academic Writer's Handbook, Leonard, Rosen. (2005)*

- *A course pack of required readings is available at the bookstore*

Recommended:

- *The citation handbook for your discipline*

Course Topics

1) Choosing and Framing a Research Problem
   How to develop a research topic appropriate to the BIS Senior Project
2) Topics to Questions
   Brainstorming topic-related questions and the creation of concept maps
3) Identifying and Using Sources
   Overview of library services, selecting and searching databases, using the web effectively, finding and using experts, and annotating what you find
4) Evaluating Information
   Dissection of a crucial component to any researcher's work
5) Making a Claim and Supporting It
   Examination of ways in which arguments are structured and the kinds of evidence available to support arguments
6) Data Collection and Analysis
   Collection, examination, presentation of information
7) Drafting and Revising
   Synthesizing your information into a doable research proposal
8) Styles of Presentation
   Consideration of various presentation forms

Course Schedule

January 22nd (class 1): Introduction and Overview of Course
        Assignment Due:
                (1) Complete info sheet emailed to you and bring to class

        You should begin preparing your course notebook now.

January 29th   (class 2): Defining Research and the Research Problem
        Reading: Booth: Prologue, Chapters 1, 2; Lamott: Introduction through page 43
(Polaroids) Plot, False Starts, Plot Treatments; Leedy and Ormrod: "Practical Research:
Planning and Design;" ; and Boix Mansilla, V. (2005, January/February). Assessing
student work at disciplinary crossroads. *Change*, 14-21.
        Assignment Due:
                (1) Prepare a one-page initial statement of interest (<u>one hard copy for each
student in the class and I copy sent via email BEFORE class time</u>) about your
research topic. Be as specific as possible in describing your topic. Include what
you currently know and why this particular topic interests you. If you need help,
take a look at "Finding Topics" in *The Craft of Research*. In preparing your
statement, you might find "Checklist for Understanding Your Readers" in *The
Craft of Research* helpful.

February 3rd Drop with no $$ Penalty

**February 5th (class 3): Defining and Framing Your Topic: Questions and More Questions;
Concept Maps**

        Reading: Booth: Chapters 3, 4; Lamott: Parts 3 and 4; "Graphic Organizers: Concept
Maps;" "Kinds of Concept Maps;" View *Traffic*

        Assignment Due:
                (1) Bulleted list of main points from *Traffic*
                (2) A revised Statement of Interest (<u>one hard copy for each student in the class
and I copy sent via email BEFORE class time</u>)
                (3) Certificate of completion of the CITI Training: website for the on-line
training instructions:
                    http://www.gmu.edu/research/ORSP/HumanTraining.html

A concept map is a technique that visually arranges (or "maps") the elements or central
themes of your topic, and expresses the relationships among these themes. You will be
preparing a concept map (or even several) for your topic as a means of organizing your
ideas in preparation for writing the initial draft of your proposal. Think of a concept map
as a tool to think through, sort, and organize the main ideas that emerge from the vast
amounts of information you will be unearthing for your topic. The concept map also will
help you to identify crucial elements to your topic that may not necessarily be well
documented or extensively discussed in your sources. These maps are an effective means
of identifying focal points and showing how that topic relates to larger issues.

February 10th Drop with 33% $$ Penalty

February 12th (class 4) Evaluating Information

> **Reading**: Booth: Chapters 5, 6; Heffernan and Lincoln: "Writing: A College Handbook;" Facione, P. Critical Thinking: What it is and Why it Counts; Katzer and Cook: "Evaluating Information: A Guide for Users of Social Science Research;"

> Remember, your initial understanding of your topic is based on the research, observations, experiences, and ideas of others. Regardless of your topic, you will be evaluating this work--articles, books, reports, web sites, studies, recorded interviews, photographs, newspapers, or videos. Not all sources will be directly relevant for you; the idea is for you to develop a core set of resources to which you can refer as you learn more about both the practice of this process of inquiry and about your topic.

> **Assignments Due**:
> (1) Brainstorm a list of 30 questions relating to your topic. In particular, pose questions according to the dichotomies listed at the end of Chapter 4 in *The Craft of Research*: parts and wholes, history and changes, categories and characteristics. In constructing these questions, think about multiple perspectives and/or contrasting points of view. (copy sent via email BEFORE class time)

> **(2) Prepare a concept map based on your research topic**

February 19th (class 5): Library Research

Please note location for this class - Johnson Center Library Instruction Room 228
Presenter - Scott Watkins, Head, Educational Services, George Mason University Libraries

This session will provide an introduction to topic analysis and the searching of electronic databases. Time will also be spent on introducing criteria for evaluating sources and how to annotate your sources for your bibliography. You will be asked to think carefully about the range of sources available which relate to your topic, the kind of information they provide, and the reliability/validity of that information. This will become increasingly important as you begin to shape and write about your topic.

The lists of questions you prepare will help you to identify your themes, which in turn will help in redefining your topic into a concise, doable project. We will discuss how a concise topic serves as a building block for understanding larger issues.

> **Assignment Due:**
> (1) Revised list of questions (sent via email BEFORE class time)
> **(2) Project Description Due (this is the first section of the proposal) - bring 1 hard copy each for your peer group and email before class.**

> **** Revise Project Description based on peer review and email me the revised Project Description by February 23rd so we can discuss during individual meetings.**

Sign up for individual meetings.

February 20th Last Day to Drop

February 26th   (class 6): Individual Meetings

Assignments Due: (must be emailed to me prior to your meeting time!)
(1) Initial annotated bibliography with at least 10 entries
(2) Written report on status of relationship with your advisor
(3) Outline of the Proposal

March 5th (class 7): Making a Claim and Supporting It

In this class, we will examine the ways in which arguments are structured and the kinds of evidence available to support arguments.
Reading: Booth: Chapters 7 - 11; "How to Handle Evidence," Eby: "Data Collection Strategies: Issues for Consideration"

Assignments Due:
(1) Complete Mid-Term Evaluation-Both Parts
(2) Revised Project Description and Background Statement (one hard copy for each student in peer group and 1 copy sent via email BEFORE class time)

SPRING BREAK MARCH 9th THROUGH MARCH 13th

March 19th (class 8): Creating a Draft

Reading: Booth: Chapters 12, 14

Assignments Due:
(1) **Revised Background Statement and Methodology** (one hard copy for each student in peer group and one copy sent via email BEFORE class time)
(2) A bibliography of sources used so far in full bibliographic citation format

March 27th Elective Withdrawal Deadline

March 26th (class 9): Drafting and Revising

Reading: Booth: Chapters 13, 16
Assignments Due:
(1) Expanded annotated bibliography (30 entries – including previous 10)
(2) **Revised Methodology**

April 2nd (class 10): Data Collection and Analysis and Presentation of Project

Reading: Booth: Chapter 15 and Some Last Considerations; Tufte: all;
Assignment Due:
(1) **Draft of Research Proposal—Revised Project Description and Background and Methodology–(one hard copy for each student in peer group and one copy sent via email BEFORE class time)**

Sign up for Individual Meeting times.

April 9th (class 11): Writing Time No Formal Class

Assignment Due on April 12th via email:
>   **(1) Draft of Entire Research Proposal**

April 16th (class 12): Individual Meetings – we will discuss entire proposal

April 23rd (class 13): Peer Review

>   **Assignment Due**:
>   (1) Revised Draft of Entire Research Proposal (<u>one hard copy for each student in peer group and copy sent via email BEFORE class time</u>)

April 30th (class 14): Presentations and Evaluations

>   **Assignment Due**:
>   Course Notebook including **latest Draft of Entire Proposal.**

Deadline for BIS students to register for BIS 490/491 in the Summer, please see http://bis.cas.gmu.edu/requirements/deadlines.html

For those BIS students planning to register for BIS 490/491 in the Summer semester, the required paperwork to register includes:

1) "Permission to Register for BIS 490 Senior Project" (requires student's signature, faculty advisor's signature, and project committee member's signature); and

2) An approved proposal for the Senior Project that has been developed with input from the 390 instructor, faculty advisor, and the BIS Program Director.

Course Guidelines

Class sessions provide the opportunity to discuss ideas, readings, and assignments. I expect you to complete work on time and be ready to discuss the topic of the day and readings that support that topic. In nearly every class, we will be discussing individual student projects. These in-class discussions/presentations will be informal, but you should always be ready to discuss your research and/or comment on the projects of others. Perhaps the most important part of the course is this process of "making topics public" to share ideas, experiences, expertise, challenges, and reflective thought. It is important that you work consistently throughout the term and keep up with the individual assignments that comprise your course notebook. Since these assignments build on each other, you will be able to leverage your work and your understanding most effectively by completing and reflecting on each piece as assigned. Expect this course to be a moderate to heavy workload. **IMPORTANT: Please save all assignments once they have been returned to you! You will need to submit them again as part of your course notebook.**

Since this course incorporates active and collaborative learning strategies, class attendance is very important. As this class is taught in a seminar/discussion format, its success depends on active and sustained participation by all those in the course. The more each person participates, the more learning will take place for everyone. If you miss a class, you should take responsibility for finding out what you missed and get the notes from a colleague. You will be asked to evaluate your own participation in and preparedness for class at the end of the semester.

Course Notebook

The course notebook should be divided into the below sections, each with its own labeled divider tab so that I can easily track each section.

Do NOT put documents into plastic page holders. Each document should be hole-punched and placed directly in the notebook so that I can comment directly on each page.

Documents within each section should be in chronological order from first draft to last draft so that I can see the progression of advancement throughout the semester.

Do not include drafts other than those that you have previously given me and your final copy. That is, do not include your working drafts, drafts with comments from other people, etc.

I will also accept electronic notebooks via CD. All work in this class should by typed, double-spaced, 11 or 12 point font.

Course Notebook Checklist:

1) Statement of Interest
    a) Initial Statement of Interest
    b) Revised Statement of Interest

2) Questions Related to Topic
    a) Original List of Questions
    b) Revised List of Questions

3) Project Concept Map (all versions)

4) Annotated Bibliography
  a) Initial Bibliography
  b) Expanded Bibliography

5) Bulleted Lists of Main Points
  a) For *Traffic*

6) Research Proposal
  a) Outline   (all versions)
  b) Drafts ---(all versions)
  c) Latest Working Draft (This draft will reflect the ways in which you've more concisely
  framed and narrowed your topic. I will be looking for how you've responded to both written
  comments and ideas about your specific topic that came up in class--some will be useful,
  others will miss the mark. This latest draft should include all required sections.)

7) Project Log
  The project log is a major component of your Course Notebook. It is a reflective document
  written to yourself and the course instructor. Use it as a place to record ideas, questions,
  concerns, frustrations, insights, and new realizations. This is the place for comments that do
  not find expression elsewhere. Previous students have described this log as a "mind-dump,"
  where thoughts and ideas you have been considering finally come to the fore.
  For the semester, I'll expect to see roughly 20 to 25 log entries, written approximately twice
  each week. In each entry, you should log the progress you are making on your research topic.
  __Each entry should be both dated and numbered__. Each day you work on your project, spend
  at least 10 minutes recording the specific work you have undertaken (for instance, how long
  you worked, where you searched for information, individuals/experts with whom you spoke,
  what you plan to do next, data you recorded). You should also include entries that reflect on
  how your work is proceeding (what you've found, ideas related to your project, ways in which
  the course readings and other materials have influenced your thinking, what you have found
  puzzling, and reflections on classmates' contributions to your project or instances in which you
  contributed to someone else's project). Think of class sessions as benchmarks that allow you to
  gauge your progress.

  Most importantly, this is a project log, not a personal journal. Jot down ideas, comments,
  and reminders that will help you with your research. This log will be one way in which you
  document the progress you make toward defining and understanding your research project. As
  you describe each task you are undertaking, please include a rough estimate of the amount of
  time you spent that day. It will help you get a fuller sense of how you are using your time.
  Each log should be equivalent to a one-page word processed document.. The log should NOT
  include messages written by myself or your classmates about your work; it should include your
  writing only.

8) Self-Assessment
  a) Self-Evaluation. Review this syllabus and discuss the following: what you learned in this
  course, the progress you feel you've made in framing your topic as a concise research problem,
  the effort you've put into the course and the assignments, and the areas that need further work
  once you begin your actual project.

b) Lessons Learned. Generate a list of "Lessons Learned" from the work you have completed throughout this course. What was the most important thing you've learned about the research process? What pitfalls would you advise others to watch out for? What is the most useful tip for other students? Your "Lessons Learned" may be shared with future students.

9) Certificate of Completion of the CITI training

10) Status of Relationship with Advisor

11) Optional: Additional Portfolio Materials
As you prepare your portfolio, you may choose to include additional materials related to your topic (e.g. database citations, photos, maps, government reports, web search information, etc). Keep in mind that these materials provide additional information to your project/thesis advisor, so including them in this course portfolio provides a fuller sense of the range of items with which you are working.

Grading Criteria

Your work will be evaluated according to the following general guidelines:

Outstanding: Work reflected consistent engagement throughout the term. Has shown excellent progress in working on the project. Assignments were thorough and thoughtfully completed, often reflecting additional work, insight, or integration of ideas. Assignments were completed on time and reflect a sense how each piece of work builds on the previous assignments. Substantial progress was made in the majority of areas related to the project. Individual could be counted on to be prepared for class, contributed thoughtfully and constructively to the class discussions, and was actively involved throughout the course. Individual showed increasing sophistication in integrating the general ideas discussed in class discussions as it related to his/her own project. (Range of grades: A, A-)

Good: Work reflected usual engagement with the course throughout the term. Has shown good progress in some areas related to project. Assignments were routinely completed on time, were complete and showed some additional work, insight, or integration of the topics being discussed. At times, assignments reflected a sense of how each piece of work builds on the previous assignments. Individual was often prepared for class, usually contributed thoughtfully to the class discussions, and was regularly involved in the course. Individual showed reasonable facility in integrating the general ideas discussed in class discussions as it related to his/her own project. (Range of grades: B+, B, B-)

Average: Work reflected some engagement with the course throughout the term. Glimmers of progress in some areas were not consistently maintained throughout the term. Assignments were routinely completed and submitted on time, but only occasionally reflected additional work, insights, or integration of topics being discussed. All required assignments for the course were submitted. Only occasionally was the sense conveyed that topics throughout the course built on each other. Individual was sometimes prepared for class, occasionally contributed to the class discussions. Individual showed only occasional integration of general ideas into his/her own project. (Range of grades: C+, C, C-)

Poor: Work showed highly inconsistent engagement with course throughout the term. Little if any progress was made in various areas related to project. Assignments were occasionally

completed on time, but often submitted late. Not all required assignments for the course were submitted. Assignments rarely reflected additional work insights or integration of topics being discussed and were completed in a perfunctory fashion. The sense that topics built on each other throughout the course was rarely reflected in assignments. Individual was usually unprepared for class, and rarely contributed to the class discussions. Individual rarely showed integration of general ideas into his/her own project. (Range of grades: D)

Inadequate: Individual failed to complete a significant portion of the course assignments, regularly missed class, was rarely prepared for class when s/he attended. Individual rarely contributed to the class discussions. Assignments were usually submitted late or not submitted at all. Final course materials were not submitted when due. Individual showed no engagement with the class and reflected little understanding of the material. Range of grades: F)

Because of the importance of keeping up with assignments in a timely manner, your grade will reflect your attention to this. You <u>must</u> contact me prior to the due date of an assignment in order to request an extension. Requests for extensions must include a proposed date for the submission of completed materials.

Late Work: If you must turn in work after the due date, you must inform me. I understand life happens, and sometimes-additional time is necessary. However, repeated late or incomplete work will result in your grade being lowered based on the criteria above.

Your final grade in the course will be based upon:

- Proposal (with emphasis on final draft) -   35%
- Annotated Bibliography (all permutations)   15%
- Completeness of Notebook (everything submitted), log, Class participation, Self Assessment, Oral Presentation   50%

Academic Honesty

GMU has an Honor Code with clear guidelines regarding academic integrity. Three fundamental principles must be followed at all times: 1) all work submitted should be your own; 2) when using the work or ideas of others, including fellow students, give full credit through accurate citations; and 3) if you are uncertain about what is appropriate for a particular assignment, *ask for clarification*. No grade is important enough to justify academic misconduct. Plagiarism means using someone else's words, opinions, or factual information without given the person credit. Plagiarism is the equivalent of intellectual robbery and **<u>will not be tolerated in the academic setting</u>**. Any student caught writing a paper for someone else or copying from another source (e.g. a published article) will be reported to the University's Honor Council.

University Resources and Assistance

Writing Center
>http://writingcenter.gmu.edu
>703-993-1200
>Robinson A 114
>The Writing Center provides tutors who can help you develop ideas and revise papers at no charge. It can sometimes accommodate walk-ins, but generally it is best to call for an appointment. The services of the Writing Center are also available online.

Disability Resource Center
>www.gmu.edu/student/drc/
>703-993-2472
>SUB I, Room 222
>The Disability Resource Center assists students with learning or physical conditions affecting learning. If you have a disability documented by the Disability Resource Center that requires special conditions for exams or other writing assignments, please see me the first week of classes.

GMU Libraries
>http://library.gmu.edu
>The GMU Libraries employ Librarians who serve can help you find information to support your project. Each Librarian is a subject specialist and can help with research topics of any area or discipline. The Library's web site provides electronic access to journal databases and many other resources.

Lessons Learned: Advice offered by students who have previously taken this course

- Start from day one.

- Work at a steady pace. Give yourself time. You will need it.

- Read the syllabus several times; keep it as a useful reference throughout the class.

- Give yourself plenty of time. You will need it.

- Consistency pays off. Keep up with your readings, project log, and papers. That way, you won't be overwhelmed when your final draft proposal is due.

- It is okay <u>not</u> to know. That is why you are here.

- Organize your course portfolio in the first week or two of class. This will give you a better feel for the course requirements. Read the syllabus several times; keep it as a reference throughout the class.

- This class is different from other classes where research was reading other people's work and summarizing their research.

- Pay attention to each student's research topic. You may get ideas for your own work.

- Write down everything in your project log that is important for your research. These notes and references can become lifesavers when you've misplaced or forgotten something. Your project log is a good place to think on paper, not just a place to enumerate research.

- Always remember: it is the process you learn, you are NOT doing the research project itself yet.

- Think of the process as that of preparing for a marathon.

- Reread the Lessons Learned often. We all have been there!

- Review the assigned reading several times.

- You will collect tons of information. Expect contradictions in what you are reading and digesting.

- Don't feel overwhelmed when the paper you worked so hard on is returned covered with red marks. It's just constructive criticism. It showed me she cared.

- BACK UP YOUR COMPUTER FILES!!!! (from a student who lost everything the day before the course notebook was due)

- As you collect materials, write your annotated bibliography. This helps you save time later.

- There is a big difference between reading others' research and posing your own problem to investigate. Research is a creative process, not just a collation of what others already know.

- DRAFT, DRAFT, DRAFT. Get something down on paper. Remember that a draft is NOT a final paper.

- Talk with people NOT in class. Talk with people less informed about your topic. This will help you articulate your ideas in a basic way to a novice audience.

- Eventually you have to stop researching and reading and start writing that first draft.

- Ask lots of questions in class and NEVER miss one. There is so much to gain and nothing to lose. It is definitely not wasted time.

- Take your problems and ideas to class. That is where you will find the most help, from your fellow classmates. The process serves your creativity. Once you know what you want to say, the process guides the rest.

- Don't worry when you panic and feel overwhelmed. Everyone in class is feeling the same thing.

- Keep working at the assignments; you will eventually understand them and gain enormously from it.

- Don't be afraid of twelfth hour direction changes, but definitely don't consider them lightly. If you've got a good idea, it came from somewhere, and it probably worthy of merit. If your research doesn't uncover anything related, maybe you're in uncharted territory that desperately needs to be explored.

- No, you are not in the wrong class. Yes, everyone else is just as confused as you are, and yes, it is all going to work out.

- Research is messy, physically and mentally.

- When the light bulb goes on, it is very bright.

- Chocolate helps stress.

- When all searches lead to a dead end; change directions.

- Don't keep your thoughts to yourself; they get you nowhere.