

**GUIDELINE<sup>1</sup>**  
**(STUDENTS' MANUAL)**  
**FOR SENIOR UNDERGRADUATE THESES**

These are guidelines for the students of Economics department on writing and defending their senior theses - the Economics research papers that the students undertake in the senior year of their studies. These guidelines include: the senior thesis calendar with important deadlines, information on how to select a research topic for your thesis, how to work with your supervisor, advice on how to make an effective oral presentation, and also information on defense procedures, and grading standards and practices for the thesis. Please read this document carefully. The final senior thesis should meet the requirements written in this guideline.

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<sup>1</sup> These guidelines were written based on the guidelines from the previous years and benefitted from "Class of 2012 Senior Thesis Program ", Economics Department, Princeton University, and "Honors Thesis Writing Guide", Economics Department, Duke University.

## THESIS CALENDAR 2014-2015

Students, not the senior thesis supervisor or the faculty of the department, are responsible for insuring that the senior thesis is completed in a timely manner. Therefore, students are strongly recommended to adhere to the schedule designed in conjunction with their senior thesis supervisor.

Table 1: Thesis Calendar 2014-2015

	Description of the stage	Responsibility	Period/Deadlines
1	Discussion with students about the senior thesis, assigning supervisors, discussions of possible topics	Chair of the department, advisor, student	September
2	Deadline for assigning supervisors and approval of the topics. All, topics must be submitted before this date.	Chair, faculty of the department	1 October
2	Final date to change the topic	Chair, faculty of the department	10 November
3	Searching and review of literature and relevant data; preliminary elaboration of materials related to the topic of the senior thesis.	Student, supervisor	October/November
4	Preparation of the preliminary version of Literature Review and Bibliography, and Research Methodology of the senior thesis to the supervisor for a first review and comments.	Student, supervisor	15 December
5	Submission of the preliminary draft of the senior thesis for the preliminary defense to supervisors.	Student, supervisor	January 12
6	Preliminary defense of senior thesis. <i>(“Not Pass” grade will affect the final thesis grade)*</i>	Student, supervisor, Chair, faculty of the department	26 – 30 January

7	<b>Submission of the senior thesis.</b>	<b>Student, supervisor</b>	<b>Last week of April</b>
8	<b>Defense</b>	<b>Student</b>	<b>Last week of May</b>

**IMPORTANT INFORMATION!!!**

\*October 1 is the deadline to submit your Senior Thesis Topic, which has been approved by your supervisor, to the department.

\*10<sup>th</sup> of November is deadline to make final changes for Senior Thesis Topics. After 10<sup>th</sup> of November any changes to the topic are NOT ACCEPTABLE!

\*Last week of January 2015 is the Pre-defense week.

Students get '**Pass**' grade on Pre-defense only if they present at least **70%** of their thesis work (Literature review, Methodology, Data description) and bring the draft of their thesis paper.

'**Not Pass**' grade on the pre-defense will result in one letter grade down for the final thesis grade. Moreover, students who do not pass pre-defense have to resubmit their paper in 2 weeks, and the faculty at the departmental meeting will decide if the student is allowed to proceed to defense.

## SELECTING A RESEARCH TOPIC

The most important step in writing a thesis is choosing a topic. You are responsible for determining the subject of your senior thesis. If necessary, your senior thesis supervisor or department advisor can assist in finding a suitable topic. You can look at some thesis from previous years to understand what a thesis entails. Moreover, reading academic journals and looking through the contents of research reports in NBER, JSTOR, and other electronic journals might give you some insight.

A thesis in economics could be either an empirical paper or a theoretical paper or both. This means that you will either collect/acquire/organize and analyze data or you will build/modify/find and study a model (or both). A small fraction of students do experimental work as their theses, which contains both an empirical and theoretical components. Therefore, the first decision you have to make is to decide whether you will write an empirical or theoretical thesis.

You should also consider the following questions while choosing a thesis topic:

- What is my main research question?
- What economic variables will I study? How are these variables measured? (Relevant for both empirical and theoretical theses.)
- What kind of model will I study? Game-theoretic, competitive equilibrium, or decision theoretic/behavioral? (Theoretical)
- Will I be able to find data? What hypothesis will I test? What econometric techniques will I use? (Empirical)
- What work has been done on this topic so far?
- Can I do the analysis in a reasonable length of time?

What needs to be clarified before starting a research investigation?

1. **FEASIBILITY.** Unless certain information can be obtained, it is unlikely that the study can be brought to a successful conclusion.
2. **RELEVANT ECONOMIC CONTENT.** Is the problem you propose to investigate an economic issue?
3. **LITERATURE REVIEW.** Can you find sufficient articles and books that discuss the topic?
4. **THEORETICAL MODEL.** Can you identify one or more theories that economists commonly apply to problems like the one you intend to investigate?
5. **HYPOTHESIS.** Write a preliminary idea of the hypothesis you would be testing (or the phenomenon you would be measuring) down, and then revise it as your thoughts about the project continue to develop. This hypothesis should reflect your purpose for performing the study—a key consideration if

you have been given a specific assignment to complete. *The hypothesis must also flow from your theoretical model.*

6. DATA. Do you have, or can you acquire, data for the dependent variable and each of the explanatory variables discussed in your theoretical analysis?
7. STATISTICAL TECHNIQUE. Do you know what the statistical method is appropriate for testing the hypothesis (or measuring the phenomenon)? Is this method consistent with the data you have access to? Will it yield estimates or statistics that can answer your questions? Several statistical techniques were discussed, but regression analysis was emphasized.

This preliminary work is critical to the success of the investigation; the worst thing that can happen is to get two-thirds of the way into the study before finding out that you won't be able to successfully complete it.

The topic of the senior thesis as well as appointment of a supervisor must be approved by the department in the beginning of the academic year.

#### **THE SENIOR THESIS SUPERVISOR**

The thesis supervisor's role is to guide students in their writing. Students have the opportunity to choose their supervisor for their senior thesis, and the student's choice of supervisor should be negotiated with a faculty member of the department of the student's major. If a student faces difficulties in finding a supervisor, the department can assist him or her in this matter.

Once you have an approved research topic and a supervisor, see your supervisor as soon as possible. Writing a senior thesis requires neither constant supervision nor complete independence. Avoid these two extremes. It is your responsibility to arrange meetings with your supervisor and submit him/her preliminary drafts of your project well before the deadlines in the thesis calendar. Do not expect your advisor to read drafts overnight. Give him/her adequate time to carefully read your drafts and provide helpful feedback and directions as needed. The supervisor's role is to guide and consult a student with his or her writing; however, the student is responsible for all work produced.

#### **SURVEY OF THE SCHOLARLY LITERATURE**

Survey of the scholarly literature is an important part of your research project. It should be the first stage of your research process and you should continue consulting the existing literature throughout. Early in your research process you can get ideas for possible angles for your research from reading scholarly papers. Later in the process you

can show how your research fits into and contributes to the literature on your topic. In reviewing the literature it is important to realize that articles in the international peer-reviewed journals have higher degree of credibility because of the referee process they have to undergo prior to publication. The following are examples of high quality international peer-reviewed journals: general-interest journals: American Economic Review, Econometrica, Journal of Political Economy, Review of Economic Studies, Quarterly Journal of Economics; specialized journals: Journal of Development Economics, Journal of Economic Growth, International Economic Review, Journal of Monetary Economics. The scholarly articles from these and other international peer-reviewed economic journals as well as NBER working papers should be your main source for the literature review.

The reference list should contain other sources used (such as secondary and tertiary sources: articles from special organizations or different ministries, etc, newspapers and magazines, documents from web sites, etc.), but they will not be counted as basic scholarly references of your project.

#### **ACADEMIC FRAUD**

Thesis works which contain plagiarism and any academic fraud will not be accepted and will result in an “F” grade for the thesis (See University Honor Code). Please be sure to cite correctly while using sources, and to give proper credit to other authors for their ideas and contribution. Note that plagiarism is not limited to copying from books, journal articles and internet cites. Copying from works of other students, using the purchased work, which someone else has written is also considered as plagiarism. The Department has noted such cases and will closely monitor the thesis works to avoid any plagiarism. Senior thesis paper is each student’s individual project, and it cannot be the result of in whole or in part unauthorized collaboration of a student with another person. If any form of such dishonesty is suspected the department reserves the right to assess other people’s involvement in the project. The assessment measures include but not limited to:

- 1) Asking the student to bring computer codes and to show estimation procedures in front of the committee;
- 2) Asking students to pass the written exam, on which students write summary of their work or its parts.

## PROCEDURE OF THE THESES DEFENCE

### PRELIMINARY DEFENSE OF THE SENIOR THESIS

The preliminary defense is designed to keep track of students' progress on the senior thesis. The draft should contain at least at least 70% of their thesis work (Literature review, Methodology, Data description). It has to be presented by the student before the department and submitted to their supervisor. During the pre-defense the student reports on the state of research as well as on the state of preparation for the defense. The department gives its recommendations to the student and, if necessary, alerts him or her to the shortcomings and missing parts of the research.

'Not Pass' grade on pre-defense will play role at final defense and will result in one letter grade down for the final thesis grade. Moreover, students who do not pass pre-defense have to resubmit their paper in 2 weeks, and the faculty at the departmental meeting will decide if the student is allowed to proceed to defense.

### SUBMITTING THE SENIOR THESIS FOR FINAL DEFENSE

All students are required to submit two copies of their senior thesis and to send an electronic copy in PDF format to their department by April 30 (the deadline to submit senior thesis, which is set by the university). The date of the defense is appointed by the department in accordance with the AUCA schedule for the state exams.

*The Senior Thesis should conform to the following formal formatting requirements:*

- The senior thesis will be written in English, no less than 30 pages in length
- Standard A4 paper, 12p font and double spaced text
- Pages should be numbered with Arabic numerals. The Title page and Table of Contents page should not be numbered.
- Page numbers should appear in the right hand corner of the page.
- The Title page should conform to the template attached below.
- The thesis should include an Abstract of the senior thesis (no more than 2 pages) in English and Russian (two copies).
- Review report of the supervisor (two copies).

## DEFENSE OF THE SENIOR THESIS

The final version of the senior thesis should be submitted to the supervisor according to the set schedule. The supervisor writes comments on the senior thesis no later than 2 week ahead of the defense. Following the university policy the department chair will assign two faculty members, who will read and grade the written thesis.



## GRADING STANDARDS AND PRACTICES FOR THE THESIS PAPER

According to the University policy, each written thesis will receive a written grade from two faculty members who were not advisors of the thesis. 67% of the final grade for the thesis is comprised of grade on the written thesis and 33% on the basis of the oral defense ('Not Pass' grade on pre-defense will lower your grade by one letter). Your written paper will be assessed by two faculty using the following evaluation criteria.

**1. Question or Problem.** A well-defined question or problem that requires economic analysis (empirical or theoretical) should be posed and answered.

**2. Understanding of the Literature.** The thesis should contain a substantive literature review, that fully and accurately summarizes the salient literature on the topic and places the student's research within its appropriate economic context. This literature review should not only describe what is known about the student's topic, but should also identify the gaps in the knowledge that the student's project intends to address. The student should make an argument for the broader significance of his/her research when addressing this gap.

### **3. Methodology and Results.**

A. Empirical work should have:

(1) A clear statement of the hypothesis or hypotheses.

(2) A detailed description of the data set. The student should discuss (and justify) the quality of the data he or she employs including:

- a) data availability and how a possible shortage of data could affect the final result(s);
- b) data reliability and how this factor could affect obtaining results;
- c) step-by-step description of the data processing: a reader should be able to repeat the described procedure and get the same result(s).

(3) Description of methodology, econometric analysis, and description of results. The student should choose the appropriate methodology that would not only address his or her research question, but would also answer the question efficiently or highly effectively. The paper should clearly explain why the student believes that this methodology is the appropriate one to test the hypothesis and justify the choice of the methodology. The discussion of results should include a careful interpretation of the coefficients estimated for the main regression equation, full description of economic sense or meaning of the result(s) and its/their implications, including considerations of possible future research; conclusion regarding the proof of, or the rejection of, a

stated hypothesis. The student should give unbiased, and accurate interpretations of the results. The student should acknowledge the complexity of the economic data and discuss plausible inconsistencies, alternative explanations, counterintuitive evidence and limitations of his or her results.

B. Theoretical work should have:

(1) A model.

The theoretical paper should provide a formal (mathematical) description of the theoretical model. The theoretical model should be tractable. The paper should clearly state the main behavioral assumptions of the model and explain how they differ from those used in related literature, and why these are important differences conceptually and technically. The student should show in what ways his model and results are novel and explain what he or she did that has not been done before.

(2) A statements of the results. The paper should give full description of economic sense or meaning of the result(s) and its/their implications, including considerations of possible future research. The student should give unbiased, and accurate interpretations of the results. The student should acknowledge the complexity of the economic issues and discuss plausible inconsistencies, alternative explanations, counterintuitive evidence and limitations of his or her results.

(3) Proofs (or numerical analysis) that establish the results.

#### **4. Written Presentation:**

For guidelines on how to write a solid economics research paper you can look at papers in top peer-reviewed journals, you can also read special guidelines for writing papers such as, for example, "A Guide to Writing in Economics" by Paul Dudenhefer. Studying these sources will give you some insights on how to organize an economics research paper, what writing style to use, and how to write effective introductions and conclusions.

a) Structure. The thesis should have a format that is consistent with the conventions of economics. A reader should be able to identify sections that typically occur in papers in the economics literature. In particular, the thesis should contain: abstract, introduction, main part with appropriate breakdown, and conclusion.

b) Style. The writing should be clear and concise. The thesis should read like a typical journal article in economics. Within paragraphs sentences should be cohesive and logically organized. The thesis should be free of writing errors and professional. The tables and figures should be clear, effective and informative, they must be consecutively numbered and cited in consecutive order.

c) Source Citations. A citation style found in the economics literature—for example, the APA style or MLA style should be used.

Table 2: Grading Rubric (provided that you pass pre-defense)

Grade	Description
A	The thesis either (1) fully meets most of the criteria above and has no major deficiencies or (2) has some deficiencies but makes a novel contribution to Economics literature
A-	The thesis is adequate or better than adequate with respect to the above criteria
B- to B+	The thesis represents good, solid work despite some significant deficiencies.
C- to C+	The thesis has major flaws and represents work that is significantly below what is expected
D	The thesis indicates virtually no command of economic ideas and tools.
F	The thesis is unacceptable either as economic analysis or as an essay

## ORGANIZATION OF THE DEFENSE

The senior thesis defense is held in an open meeting forum of the State Examination Committee where the public may sit in on the meeting. The department must agree upon the composition of the State Examination Committee. Before the defense, the secretary of the State Examination Committee submits the copies of the senior thesis as well as other related documents to the head of the State Examination Committee. The student gives approximately a 10-15 minute presentation of their thesis work. Members of the State Examination Committee ask questions and evaluate the presentation, the answers given to their questions, evaluates the thesis itself. The oral defense will comprise 33% of the final grade.

## ADVICE FOR YOUR ORAL PRESENTATION

Check whether you have given an accurate oral presentation of your paper and what the time constraint is (usually you get 10-15 minutes to present your research and 10-15 minutes to answer questions). Students have to give an oral presentation of their thesis.

Prepare a three/four-page handout for your audience, consisting of up to four A4 pages printed on A3-sized paper and folded once to obtain an A4-sized booklet. The handout is a mini-paper that contains your contact information, summarizes your key findings and includes the graphs and tables you discuss during your presentation. Use the format of a short paper, but omit the abstract (rules for written work). Include a list of references (including a reference to the full paper). During the presentation, focus on the research hypothesis and the evidence. Don't start by summing up what you are going to say; you have only 15 minutes, so get to the point. In a thesis presentation, assume that your audience has read the paper in advance (if they haven't, they are unprofessional and don't deserve your time). Don't oversell your point (again, a research presentation is not a sales pitch); instead, give a balanced assessment of the evidence. Stay strictly within the time allotted; the only way to time a presentation is to practice it at home with a test audience (room-mates or family members are useful guinea pigs). Like a paper, a presentation has to be revised, revised, and revised again to obtain a satisfactory result. *During the presentation face the audience, not the screen. Don't read out what is shown on the screen (especially problematic with bullet points), nor read from a sheet.* Use sequentially numbered 10 by 15 cm index cards with key words (not complete sentences) to help guide yourself through your presentation.

This is an extensive list of criteria for the oral presentation:

### **Topic selection**

Purpose is clear

Appropriate for assignment

### **Audience adaptation**

Persona

Tone

Who is the target audience?

### **Outline (if required)**

Follows correct guidelines

Easy to follow

Followed in speech

### **Introduction**

Introduces topic

Grabs Attention of audience

Establishes credibility

Presents Central idea/Preview

**Body of the speech**

Main points are clear (topic sentences for each main section of the speech)

Clearly organized and logical

Sources are used

Sources are cited appropriately

Topic is well explained

Transitions are used between main points

**Conclusion**

Summary

Strong closing that includes significance of findings

**Delivery**

Eye contact

Vocal variety

Body movement: control of random movement and gestures are used well

Lack of vocal fillers (“um,” “uh,” “like”)

**Visual aid (if used)**

How well they add to the presentation

Appearance is professional

Well used and smoothly integrated