

PPMT 900 - RESEARCH SEMINAR

This course is designed to teach the *craft* of social science research to students of *any* Wharton doctoral program. Much of the curriculum of doctoral programs teaches students the *methods* of research, particularly quantitative techniques. Students are exposed to research papers in these courses, demonstrating examples of *research outputs*. This course, in contrast, aims at bringing students an understanding of the research process itself:

- how to develop research problems
- what constitutes an interesting problem
- how to know if a problem is amenable to analysis
- which (of several) research paradigms are appropriate to a problem, and
- how do you know when you are finished.

This one-credit course meets in the Spring term, 3 hours every two weeks; and again in the following Fall term, 3 hours every two weeks. It is designed to be taken during the student's second and third terms of study.

First term: After an initial lecture on the scientific method (see syllabus below), four generic research paradigms are discussed; Theory, Econometric, Experimental, and Survey. Each of the four lectures are based on a "master researcher" model: individual researchers relate how they conducted a specific research project, from the first idea, through false starts, data problems, working with a co-author, abandoned avenues, etc. The emphasis here is on the process of research rather than the output of the research. It is specifically "hands-on:" what problems the researcher encountered and how he/she solved or avoided them.

The last two class sessions consist of students presenting one (or more) research ideas to the class, in preparation for their (first) research paper. Student will prepare a two-page Research Question Précis (see enclosed format for this) which will be distributed before class to the professor and all other students. In the final class session, each student will "contract" for a draft of a research paper to be ready for initial presentation to the class in the fall. Students thus have the summer to develop their research and prepare for in-class presentations.

Fall Term: All class sessions in the Fall term are given to student presentations of their current research in progress; students critique each other's work. Students may form "research partnerships" with another student with whom they work closely, critiquing each other's efforts and perhaps presenting each other's work in class. Only enrolled students and the course professor are present during such presentations in order to encourage open and frank discussions of research problems. If a student wishes to invite a faculty member that he/she is working with, that faculty member may attend

the class session during that student's presentation (but not for any other presentations).

Successful completion of the course requires submission of a completed research paper, certified as publishable in a scholarly journal by two standing faculty members * who have worked with the student on his/her research project. This paper should meet all the requirements for a candidacy paper, should such a paper be a degree requirement in the student's home department. The student carries a grade of "NC" for the course until this paper is completed.

Syllabus for the Spring Term:

Class 1 1/17	Introduction to the Scientific Method. Readings: Popper, "The Logic of Scientific Discovery" Friedman, "Positive Theory of Economics" Howson & Urbach, "Scientific Reasoning: the Bayesian Approach" <ul style="list-style-type: none">• Typology of Research Methods:• Theoretical• Econometric• Experimental• Survey
Class 2 1/31	Master Researcher I: Experimental Research <i>Professor Mary Frances Luce, Marketing</i>
Class 3 2/14	Master Researcher II: Econometric/Statistical Research <i>Professor Robert Inman, Finance and Public Policy and Management</i>
Class 4 2/28	Master Researcher III: Theoretical Research <i>Professor Franklin Allen, Finance</i>
Class 5 3/20	Master Researcher IV: Survey Research <i>Professor Pat Harker, Systems Engineering</i>
Class 6 4/3	Presentation of students' proposed research projects. Each student is expected to prepare a "précis" of at least one problem statement, using the standard format, and present it to the class for comment and criticism.
Class 7 4/17	Continue student presentations of proposed research projects. Students "contract" for summer research output.

Syllabus for Fall Term: as described in the text above.

* A letter certifying that the research paper is complete to the supervising faculty member's satisfaction must be sent from that faculty member to the course professor.

Format for 2-page Research Question Précis

Statement of the Research Question (one sentence)

Background on the Question (one paragraph)

Why is this interesting? (one paragraph)

Sketch of the Model: Who are the agents and how do they interact? (one paragraph)

What are the empirically testable hypotheses of the model? (one paragraph)

What data are required to estimate the model? Where will you get it? (one paragraph)

How will this data be used to test your hypotheses? (one paragraph)

How will/should your research affect real-world agents, such as firms, public policy makers, investors, etc.? (one paragraph)