Overview
A primary component of graduate study at UT Dallas is participation in research. A student who chooses the MS Thesis option in the Systems Engineering and Management degree program must not only solve a research problem, but must also acquire the literary skills necessary to communicate that research to other scholars. The preparation of the MS Thesis is one way these skills are acquired.

The Masters thesis is usually an objective, unbiased investigation based upon scholarly work by the author, who bears ultimate responsibility for meeting all of the Graduate School requirements. The primary purpose of the thesis is to train the student in the processes of scholarly research and writing; this, of course, is done under the direction of members of the Graduate Faculty. Once the work is published it serves as a contribution for use by other scholars as well as by a more general audience.

MS Thesis versus PhD Dissertation
The primary difference between a thesis and a dissertation is the depth of knowledge required. The level of “contribution” varies greatly between the MS Thesis and the PhD Dissertation, where the latter must represent a contribution to the open, archival, scholarly literature. Research in pursuit of the masters degree is typically on a specific subject that demonstrates knowledge acquired through the MS program, and often relies heavily on previously published results to prove a point. The PhD dissertation is different in that it must contribute something completely novel and undiscovered to the field, where the research of others is used only to guide the author’s research in generating a completely new hypothesis.

In summary, the masters degree could be characterized as the degree of a “skilled craftsman”, providing proof that the candidate knows the tools of the literary trade and can use them satisfactorily. The doctorate degree, on the other hand, requires that the candidate presents a significant and substantial piece of research of stature, breadth, and conviction in a coherent and complete literary argument.

Style and Formatting
The MS thesis should be written in a formal scholarly manner appropriate for most academic publications; for example, the use of the first person is discouraged. The author should consult with Graduate School guidelines for formatting, submission, and other details concerning standards set by UT Dallas.

The student is responsible for acknowledging any facts, ideas, or materials of others included in the document, following established guidelines for acknowledging the work of others. If copyrighted material is used in the thesis, it is the student’s responsibility to give full credit to the author and publisher of work quoted, and for determining whether use of the material can be classified within “fair use” guidelines. Material considered beyond the concept of “fair use” requires written permission from the copyright owner. If a portion of the thesis has already been accepted to appear in an archival journal or conference proceedings, reference to that work must be clearly made.

Structure
Although the MS thesis can take several forms and a variety of structures, the basic structure and content common to most MS theses is as follows:
1. introduction, which introduces the research topic, the methodology, as well as its scope and significance;
2. review of the relevant literature, with an illustration of how the literature impacts the thesis research;
3. discussion of methodology, explaining how the research has been designed and why the research methods/population/data collection and analysis being used have been chosen;
4. detailed explanation of results, outlining the findings of the research;
5. analysis and discussion analyzing the results and discussing them in the context of the literature review;
6. conclusion section summarizing the contribution and discussing potential follow on work.