What is a thesis?
In our applied discipline of agricultural education and communication, a thesis is an academic research project that focuses on answering questions and offering potential solutions to significant problems encountered by our stakeholders in their work environments. These stakeholder groups include county and state extension educators; public relations and communication specialists in agriculture and natural resources; agriscience teachers in middle schools and high schools; leaders in organizations, agencies, communities, and the agriculture industry; and students and faculty in the College of Agricultural and Life Sciences. A worthy thesis project would involve an investigation into a major challenge faced by one or more of these stakeholder groups. The goal of this research would be to better understand the phenomenon, offer new insight about its occurrence, and suggest actions that may help to alleviate the problem. A thesis will probably be unlike any other project you have completed because of the level of scholarship, analysis, structure, objectivity, thoroughness, length, and originality required in a well-designed and executed thesis project.

What habits and actions will enable success?
An undergraduate thesis project requires discipline in planning and execution from start to finish. Some key considerations include the following:

1. Visioning – Once you decide to complete a thesis project after preliminary discussion with your advisor, take some time to think about what you would like your finished project to look like. Read through several recently completed undergraduate thesis projects in the department, and form some general ideas about your topic, approach, and final product. Think about what might cause you to be delayed, or even unsuccessful, or how you will counter those possibilities.

2. Organization – workplace, workspace, calendar, materials, ideas, records, meetings, files – if you find that the level of organization in any these aspects is lacking, make the changes needed to enable your success.

3. Timeline – Develop a written timeline for completion. Your advisor can help you identify the key steps/milestones and the amount of time you should allocate for each. Then work backwards from the thesis submission deadlines to develop your timeline. Please refer to the CALS web page for information about submission deadlines each academic year: http://cals.ifas.ufl.edu/current_students/thesis.shtml. Note that these are FIRM deadlines set by the CALS Dean’s Office, so please plan accordingly.

4. Effort – Designing and completing the thesis project will be challenging in the midst of your other academic and student activities. However, if you don’t give the project the time and effort it requires, you will miss your deadlines and/or be disappointed in the quality of the end product. Your thesis is an extra project that will require extra time and effort to complete.

5. Barriers to success – As you begin your thesis planning and throughout the project, honestly identify those factors that are preventing you from doing your best work and take the actions needed to reduce or eliminate each of those barriers.

6. Daily focus and energy – Momentum is a critical element of completing a high quality thesis project. If you do not make a daily investment, even if for only 30 minutes, to address the
next actions in your thesis project, you run the risk of trying to recapture thoughts and
conversations and missing key milestones along the way. Reading, thinking, discussing,
planning, and writing should become routine actions for generating and maintaining
momentum in your thesis project. If you find that days or even weeks have passed without
much thought or action on your thesis project, identify what’s preventing you from giving
your thesis the time and effort it needs and address accordingly.

Your completed thesis document should reflect your personal best in formal writing and analysis.
This includes sentence composition, grammar, punctuation, style (your advisor will suggest a
specific style manual), flow of ideas, accuracy, literature citations, level of thought and analysis,
and overall organization. Develop an outline for each chapter in consultation with your advisor
before writing the full text. Edit your work carefully after multiple readings, and ask another
capable person to give you honest feedback on your draft before submitting it to your advisor.
Backup your computer files on a daily basis.

How should I work with my advisor in planning, conducting, and writing my thesis?
The thesis project is a joint effort between you and your advisor, but in reality, it is YOUR
project. Take the initiative to schedule meetings, plan discussion topics and questions for the
meetings, and make notes about what was decided at each meeting and your next actions.
Schedule regular (weekly) meetings with your advisor as you plan, conduct, and write your
thesis. Give your advisor ample time to read drafts of your work before you meet. Seek your
advisor’s help in resolving any roadblocks along the way.

How do I obtain IRB (Institutional Review Board) approval?
The University of Florida must ensure that research conducted under its jurisdiction does not
present unreasonable risks to subjects or volunteers. Faculty, staff, and students conducting the
research are primarily responsible for safeguarding the welfare of study participants. IRB
approval of the proposed research procedures must be obtained before data collection begins. Go
to http://irb.ufl.edu/irb02/index.html for additional information and a copy of the IRB submission
form.

What constitutes plagiarism?
A major ethical standard in research focuses on appropriately recognizing and crediting the work
of others who have contributed to the body of knowledge in a given area. Plagiarism is simply
using someone else’s ideas or wording without giving due credit. When you present an idea in
your thesis project that originated from another source (written or spoken), even if you modified
the wording or parts of the idea, credit to the original source should be given. The thesis is a
scholarly work, and as such, extensive citation from the literature is expected. As you make notes
from a source, indicate clearly whether your notes are a direct quote or a paraphrased
interpretation. If direct quotes are used, the page number is required for a complete citation.
Plagiarism software is widely available and routinely used by professors and journal editors.

What are the elements of my thesis research proposal and completed project?
Undergraduate thesis projects mirror master’s thesis projects but the scope of the study and final
product are usually scaled down considerably. Our discipline typically uses a five-chapter
approach for theses as shown on the following page. Check with your advisor for additional
points. Typical page lengths (double spaced) are shown in parentheses.
Abstract (150-250 words)

- Provides a summary of the overall study. The format for the abstract usually follows these areas. Please note that you do not label the sections (purpose, methods, etc.), but you include the sentences as described below:
  - **Purpose**: “The purpose of this study….” (one sentence).
  - **Methods**: Usually one to two sentences on how this study was conducted and who the sample or population was.
  - **Results**: Usually two to three brief sentences on the major findings from the study.
  - **Conclusion**: One to two sentences on the major implications or ramifications from the study.

Chapter 1 – Introduction (2-4 pages)

- Provides the background and setting needed to put the problem in proper context and justifies the need for the study.
- Contains facts, trends, and points of view (opinions) as drawn from the professional literature in agricultural education and communication and relevant areas. The presentation of these key points should flow from general trends and concerns to the specific problem/challenge that you will address in your thesis research.
- Provides a logical lead-in to a clear statement of the problem, which is followed by the purpose of the study and the research objectives that you will pursue.
- Chapter 1 also includes a list of any assumptions and limitations, as well as a section (Significance of the Study) that explains what groups could potentially benefit from the study and how/why.

Chapter 2 – Review of Literature (4-6 pages)

- Presents the results of previous research related to your study topic, organized by the key variables in your study. A conceptual model showing the relationships among variables related to your research problem can also be included.
- For survey research or other quantitative study, Chapter 2 indicates the theory upon which the study is based. Qualitative studies usually build theory rather than apply or test theory. Thus, in these studies less attention is given to theory in Chapter 2.
- Provides the rationale for hypotheses (if stated).

Chapter 3 – Procedures or Methodology (2-4 pages)

- Describes in detail the step-by-step procedures used in collecting and analyzing data.
- Possible sections of Chapter 3 include research design, subject selection, instrumentation, data collection, data analysis, chapter summary and others. Talk with your advisor about adjustments in this chapter if you are undertaking a qualitative study.

Chapter 4 – Findings (page length varies based on study, usually 4-7 pages)

- Reports all results obtained, including appropriate statistics and descriptions of data.
- Includes facts only – what was found with explanation, but not interpretation or conjecture by the researcher.
- Is organized and written around objectives of the study (research questions or hypotheses).
Chapter 5 – Summary and Conclusion (typically 3-5 pages)

- Briefly summarizes intent, procedures, and findings of study.
- States conclusions based upon findings (first point in paper where the researcher is allowed to include his or her own interpretations).
- Describes how findings support or refute related studies (Implications for Current Knowledge).
- Describes implications of findings for those groups affected by the program/findings (Implications for Practice).
- Includes recommendations for practice based upon findings and conclusions.
- Includes recommendations for further research.

Appendices

- Includes copies of all correspondence, instrumentation, and other written communication used in carrying out the research.
- Includes special lists (i.e., expert panel members, etc.).

References

- Includes complete bibliographic information for all references cited in the text (use accepted style manual, such as APA).

Chapters 1-3 above constitute the thesis research proposal. In writing the proposal, verb tense is future tense (e.g., “will be”). Note that specific rules apply to verb tense. With few exceptions, past events and past research/writings should be described using past tense verbs. Past trends that still continue should be described using present perfect tense (e.g., has been). Present tense is used only to describe the contents of a table or other section in the thesis itself and when stating conclusions. The use of “it” and “there” to begin sentences should be avoided, unless “it” clearly refers to a preceding noun.

How do I decide on my research problem?

Your thesis research should address a known, real problem experienced by a stakeholder group in our discipline. Your project will be designed and conducted in an attempt to help resolve the identified problem. Thus, your research problem can be drawn from your personal experiences and observations, from others’ observations and opinions, or from previous research. The problem you choose to research should be related to a significant or major problem experienced by stakeholders, as generally viewed by experts in the profession. Some significant problems are unique to Florida stakeholders, while others are national in scope and are reflected in the 2011-2015 National Research Agenda released in 2011 by the American Association for Agricultural Education (http://www.aaaeonline.org/nationalresearchagenda.php). A key question to ask as you and your advisor discuss potential thesis projects is, “Who needs and could benefit from this research?” The second fundamental question to ask when identifying your research topic and interpreting the results is, “So what?” That is, of what value will/is the research, to whom, and why? Your study should attempt to inform or solve a problem in the field (that is, one faced by stakeholders on a recurring basis) or help solve a puzzling situation that calls for action but has no clear solution. Try to go beyond merely describing a situation or population and design your study so it has the potential to provide solutions for a defined stakeholder group to use.
When defining the focus of your thesis project, consider the following terms and examples:

**Research Topic** – the general area of study/inquiry, such as:
1) student motivation and achievement.
2) awareness and understanding of the agricultural industry.

**Research Problem** – the specific, unresolved situation in the field, such as:
1) many high school students are underperforming and disengaged in learning.
2) uninformed voters are approving policies that are harmful to agriculture.

**Research Question** – the specific question that will be addressed through your research, such as:
1) What are the effects of an issues oriented curriculum on student achievement and engagement in learning?
2) What factors shape public opinion about agricultural and natural resources issues?

How should I develop the three chapters for the proposal?

**Chapter 1**
1. The introduction should establish a chain of reasoning/logic and smoothly flow from one key point to the next.
2. Chapter 1 summarizes the “opinion literature” on your topic. Present empirical (research) findings in Chapter 2.
3. Use the most recent references available, and use original sources unless they are out of print.
4. Use past tense or present perfect tense in your writing. Use future tense for the proposal to describe what you will do.
5. Common grammatical errors include using “data” as a singular noun (should be “data are”) and beginning a sentence with “it” and “there.”
6. Your list of definitions should include all terms not commonly understood. These words should be “operationally defined” for your study. For example, provide a definition and citation on motivation, followed by a statement that says, “In this study motivation was defined as the subject’s score on the Britton Motivation Questionnaire.”
7. Build your reference list as you go. Cite sources using APA style, and check the elements of each citation to prevent a return trip to the library to get the missing elements.
8. Limitations are any restrictions in the study – population, sample, time, geography, and so on.

**Chapter 2**
A theory is a generalization or series of generalizations by which we attempt to explain some phenomenon in a systematic manner. Our field includes many theories about learning, leading, communicating. Theory is derived from research, observations, and logical analysis and is commonly presented in books and published research. Chapter 2 includes the underlying theory base for your study, research findings from past studies that are related to your topic, and a conceptual model in the form of a diagram or concept map that combines the theory and previous research (see the example on page 7), showing the relationship between variables that may influence the phenomenon you are studying. With few exceptions, previous research findings are reported in journals (e.g., *Journal of Agricultural Education, Journal of Extension, Journal of Leadership Education, Journal of Applied Communications*, etc.) and technical reports. Your outline for Chapter 2 should be derived
from the major variables in your study. Focus on recently published research (last 10 years), while including any works that are considered classics in the field. When you find an article that seems related to your study, read the abstract to verify, then focus on the population studied, the results, and conclusions.

Chapter 3
Chapter 3 is the research methods chapter and is based largely on the decisions you and your advisor make about how to conduct your study. Elements of Chapter 3 typically include one or more introductory paragraphs, research design (specify the design and explain its limitations), population and sample, instrumentation (the tools that you will use to collect data), data collection procedures, data analysis procedures, and a chapter summary. Talk to your advisor about modification of this outline if you are conducting a qualitative study.

Final thoughts
Completing a high quality undergraduate thesis project requires initiative, careful planning, frequent communication with your advisor, disciplined inquiry, and sound judgment and decision making. After you have completed your study, your advisor may encourage you to submit a proposal to present your research at a regional or national conference and/or to submit a manuscript to a journal for review and possible publication. Your advisor will also assist you in developing an executive summary of your research that can be shared with practitioners in the field. This is the best way to ensure that your thesis project has value by providing insight and potential solutions to a significant problem faced by one or more stakeholder groups.

AEC UG Thesis Guidelines 2011
Figure 2-1: Model of the Five Stages in the Innovation-Decision Process

COMMUNICATION CHANNELS

Prior Conditions
1. Previous Practice
2. Felt needs/problems
3. Innovativeness
4. Norms of the social system

I. KNOWLEDGE

II. PERSUASION

III. DECISION

Characteristics of the Decision-Making Unit
1. Socioeconomic characteristics
2. Personality variables
3. Communication behavior

Perceived Characteristics of the Innovation
1. Relative Advantage
2. Compatibility
3. Complexity
4. Trialability
5. Observability

IV. IMPLEMENTATION

V. CONFIRMATION

1. Adoption
   - Continued Adoption
   - Later Adoption

2. Rejection
   - Discontinuance
   - Continued Rejection