AIR COMMAND AND STAFF COLLEGE (ACSC)
RESEARCH GUIDE
AY 2015

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INTRODUCTION

This guide provides guidance for Air Command and Staff College research writing and elective requirements. It contains a step-by-step process to conduct your research and write up the results. However, it is only a guide. The lesson plans and your course instructors are the final authorities for these assignments. They should be consulted throughout the research process. Special thanks to Dr. James Kiras for allowing ACSC’s Department of Research and Publications (DER) to use his School for Advanced Airpower and Space Studies research guide as the starting point for this work and Col Fred Stone who first started the effort here.¹

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1. WHAT IS RESEARCH?

Research is a “diligent and systematic inquiry or investigation into a subject in order to discover or revise facts, theories, applications…” In other words, research is gathering information to answer a question or resolve a problem or situation.

2. WHY WRITE ACSC RESEARCH PAPERS?

a. Good research requires you to think critically, plan accurately, and write intelligently. Good staff work requires these same skills. Thus, research provides a means to hone staff skills while also building your academic knowledge and skills. The ability to think critically—to gather information, analyze it, and draw solutions—is an essential skill for officers. Research provides a critical component of the Air Force and Department of Defense requirements to promote critical thinking and intelligent writing. The ability to process and distill large amounts of information into usable form is a must for officers.

b. Research papers also provide you the opportunity to study a topic of interest in depth. In some cases your research and writings will lead you to become a much sought after expert in the field. In addition, the ACSC Research Awards Program recognizes excellence in student research each year through external and internal awards. See the current list of awards in Appendix G.

c. Good research papers also add to the scholarly body of knowledge related to the profession of arms. The production of publishable papers literally gets you into the “intellectual fight” that touches personnel, systems, and practices for decades to come. From the earliest days of ACSC, program and policy changes, as well as military operations, have begun with ACSC research papers.

3. ACSC RESEARCH OPPORTUNITIES

You will be required to write at a minimum two research papers. Students taking two electives will complete at least two short research papers. Students participating in the extended research project will complete one short and one long paper. A few exceptions apply for the yearlong electives, but these will not affect most students.

a. **Elective Courses** Guidance for the Fall and Spring electives can be found in the course specific syllabus.

b. **Extended Research Project Instruments** (Only applies to those in the extended research program)

1. **ELB-600 - Enrollment:** Due 19 Nov 14
   Complete the Memorandum of Commitment to participate in the Extended Research Program (DER provides students MFR format).

2. **ELB-600 - Research Proposal:** Due NLT 28 Jan 15
   Prepare a two to three-page paper specifying research question(s), methodology, problem(s) background and the significance of the proposed
research (typically 10% of total grade—set by instructor). See Appendix A for a sample proposal.

3. **ELB-603 - Research Prospectus:** Due NLT 18 Feb 15
Prepare a three to four-page paper with developed thesis, methodology, literature review, outline, and preliminary bibliography for the research (typically 10-15% of total grade—set by instructor). See Appendix B for guidance.

4. **ELB-606 - Research Paper:** Due NLT 8 Apr 15
Prepare a 5,000-word or approximately 20-page essay (at least 80% of total grade). The choice of style guide rests with the elective instructor. See Appendices C and D for format and guidance.

4. **CHOOSING A TOPIC**

   a. You should choose a topic both of interest to you and relevant to today’s warfighters. Topics must be approved by the research advisor and should, when possible, correspond to a topic found or inputted into the [Air University Research Information Management System (AURIMS)](https://aurims.airuniversity.edu).

   b. Consider these factors when developing topics:

      1. Your own interest and expertise in the subject,

      2. The topic’s suitability for treatment within the time and space allowed,

      3. The availability of sources and other resources,

      4. The topic’s significance to today’s warfighters, and

      5. The potential for further research into the topic.

   c. Research elective instructors and research advisors should be able to offer additional ideas for research topics. If you have any questions or need clarification, contact DER for assistance.

5. **RESEARCH ELECTIVE INSTRUCTOR/ADVISOR**

   a. The elective courses allow you to examine broad areas of interest. They also offer opportunities to work with experts in those areas.

   b. The advisor’s role is to ask probing questions, recommend sources, and critique outlines. The advisor may also recommend specialists and experts who can provide technical expertise regarding your topic.

   c. Advisors are responsible for guiding development of papers from start to finish. Elective instructors provide a good starting point; however, any Air University instructor can facilitate that role. In addition, you are encouraged to seek out subject
matter experts, understanding that such individuals are tremendous resources but not suited to act as research advisors. You should refer any questions relating to potential advisors to DER.

d. The advisor helps keep you on track, but you bear primary responsibility for meeting quality standards and suspenses. To enable success, you should discuss your research with your advisor on multiple occasions during the course of your project. You should not expect advisors to drive you through the research and writing. Instead, advisors are available for consultation. The advisor will challenge you to think ever more critically about your research question; she or he will also critique writing, methodology, and content. Ultimately, it is your responsibility to seek an advisor’s assistance.

e. If you elect to participate in the extended research program, you are required to fill out a memorandum of commitment for DER. The memorandum of commitment is included as part of Appendix F and covers extended research authorization, Faculty Research Advisor (FRA) conformation, and an initial research topic. Your current elective instructor will certify that you have sufficient writing skills to pursue a longer research project. In many cases, the same elective instructor will serve as the Faculty Research Advisor. In cases where you wish to work with another faculty member (FRA), you must also gain approval from that prospective FRA. DER will be the final authority for approving Faculty Research Advisors. Working with your FRA, you will draft a description of your proposed topic and include it on the memoranda of commitment. These topics will likely require further polishing as you and your advisor work together.

6. STEPS TO DEVELOPING A RESEARCH PAPER

The steps listed below are a suggested sequence for the orderly research, analysis, and composition of a research paper. Some of these steps continue throughout the research process.

a. Select a General Subject Area. This process provides the broad arena in which you will conduct an investigation. Review some readings on this topic and see what questions arise. Look for knowledge gaps—areas that have not been explored. For example, after looking at the Combined Bomber Offensive, you might wonder how targeteers selected targets and if lessons from target selection apply today.

b. Narrow the Scope. After generally reviewing the research literature and looking for gaps or questions, narrow the topic’s scope. Research will lack significant depth if the topic is too broad. It is probably too broad if it can be summarized in only four or five words. On the other hand, if it is too narrow, it will be difficult to gather enough information to complete the paper. Narrowing the scope entails estimating the amount of space needed to cover the topic as well as the research material available. You should also assess your level of comfort with the research methods.
c. **Formulate a Research Question(s) and Thesis Statement.** Normally, you should focus on a single research question. In shorter papers, a research question helps lead you to your thesis. Always focus your thesis and keep it limited in accordance with the length of the paper.

- Research questions often examine the relationship between variables. For example, “Is the current operations tempo of the US Army increasing the number of field grade officers who separate before they are retirement eligible?” The variables are the operations tempo and the number of officers separating early.

- Research questions can also be exploratory. For example, “What were the keys to the success of the Combined Bomber Offensive?” (Of course, this assumes that the offensive was successful.)

- A thesis statement is essentially a claim that the author defends. The author may derive a thesis statement by answering the research question. “US Army Field grade officers are separating in lieu of retirement because of the increasing operational tempo.” This statement clearly states this author’s claim and purpose of the paper. A thesis statement focuses the paper. However, be careful since you may (even unconsciously) discount evidence that fails to support the thesis. Formulating either the question or the thesis often presents the most important and difficult parts of the research process. Recognize that your initial research question or thesis will likely be provisional. You may find that your perspective may change as you more closely examine the literature. Typically, neither research questions nor thesis statements can stand alone. Consider the warrants or implications that make research meaningful. For example, you may effectively argue that more Army officers are retiring early, but you also should show why this is important.

d. **Conduct a Survey of Available Resources.** The next step is to survey the quality and quantity of available resources. A good place to start is at the Muir S. Fairchild Research Information Center (MSFRIC). MSFRIC has full text listings for more than 1,400 journals. The MSFRIC staff has also assembled Web-based support pages for many of the research electives for your use. MSFRIC staffers are eager to help you. Your course instructor can provide valuable insights on where to find the best resources. Fellow research seminar students may be able to give good advice on where to look and how to connect with subject matter experts. The internet can be an excellent tool to find resources, but as with any resource, carefully evaluate it before using it.

e. **Develop a Research Proposal.** The research proposal is a plan of action for the paper. Instructors will provide specific requirements for each class; however, the proposal normally outlines the scope, methodology, and preliminary bibliography for the paper. It demonstrates a viable plan to complete the paper. It also allows your advisor another opportunity to help guide your research. A notional proposal for the Masters’ students is available in Appendix A.
f. **Conduct Research and Take Notes.** You can conduct research and note taking in many ways. One method is to use note cards for each subject or category (See *Craft of Research* 2nd Ed., page 98 or 3rd Ed., page 95 for an example.) Another method involves using a cover sheet for each resource. A cover sheet provides more room for notes. Regardless of the method, be very careful when copying material. Several well-respected authors have had their reputations tarnished because they inadvertently copied material from a source directly into their work without proper attribution. Cutting and pasting from another source is inherently dangerous, as it often leads to unwittingly plagiarizing from the source document.

g. **Analyze the Findings.** Here the researcher confronts the meaning of the evidence. In this process, he or she must strive for impartiality, review all arguments, and develop balanced conclusions. In formulating conclusions, it is helpful to return to the original problem statement and research question. Have the conclusions addressed the original problem, and has the research question been answered? At this point, the researcher becomes an analyst and is obligated to build a case that can stand up to logical questioning by informed readers. You can accomplish this by identifying specific, evaluative criteria and objectively applying those criteria to the evidence. As the author’s principal conclusion, the thesis must employ a coherent, balanced argument.

h. **Write a Topic Sentence Outline.** This outline contains the topic sentence of each paragraph in the research paper and the answers to the conceptual outline questions (if the outline has been pursued to this level of detail). Two points merit comment.

- First, it is based on the **evidence** accumulated during research. Substantiate each sentence and paragraph with facts. These will then become the developing sentences of the final paper.

- Second, arrange the sentences in a **logical** order that takes the reader through the evidence, periodically pausing to summarize the evidence, and leading the reader to the next logical inference, ultimately and inescapably leading to the conclusion.

i. **Conduct Supplementary Research.** Such research fills the gaps in the argument after a chapter or several chapters have been drafted. Obviously, the more thorough the original research and the more precisely focused and defined the research question, the less you will need supplementary research.

j. **Write the First Draft.** If your research has been careful, the analysis conducted logically and objectively, and a proper outline completed, the first draft should be a straightforward writing task. Insofar as possible, you should write this draft quickly, without dwelling on the details—considerable refinement will be carried out later.
k. **Revise and Submit the Completed Manuscript.** After completing the first draft, make a fresh appraisal of the paper. This appraisal should take at least several days and, preferably, be done at least a week after the initial draft has been completed. When you come back to the work, your perspective should be fresh. Conduct the review in several stages.

   o First, examine the logic of the argument. Is it in the proper sequence? Are there any gaps? If any of these conditions exists, either restructure or conduct supplementary research as needed.

   o Next, proofread for correctness of spelling, punctuation, word choice, and usage. Various software programs are available to help in this phase, but there is no substitute for personal knowledge of the rules for correct writing.

   o Proofread again to tighten the prose. Eliminate unnecessary words, combine thoughts wherever possible, and make smooth transitions.

   o The final editing step seeks to revise for polish, style, and grace. The best way to do this is to read the paper aloud and let the ear direct the pen or the keyboard as the case may be. We are not all capable of constructing elegant prose, and a research paper is neither an epic poem nor a novel. Nevertheless, the more pleasing and memorable your words are to your readers, the more likely they will be to accept your ideas.

   o Review the manuscript specifications listed in Appendix C.

1. **Summary.**
   1. Select a general subject area
   2. Narrow the scope
   3. Formulate a research question(s) or thesis statement
   4. Conduct a survey of available sources
   5. Develop a research proposal
   6. Conduct research and take notes
   7. Analyze the findings
   8. Write a topic sentence outline
   9. Conduct supplementary research
   10. Write a first draft
   11. Revise and submit a completed manuscript

7. **WRITING AND STYLE**

   a. *The Craft of Research* by Booth, Gregory and William will help with research. This book provides information on developing almost every aspect of the paper.

c. Other writing aids can assist with proper research methods, style, and grammar. Strunk and White’s, *The Elements of Style, 4th Edition*, is the most widely used and probably the best American style guide ever written. In addition, *The Chicago Manual of Style*, the foremost authority on academic writing in the humanities and social sciences, goes into extreme detail concerning almost every conceivable appropriate style and grammar question not addressed in the **AU Style and Author Guide**. You’d be wise to peruse these books before your research begins.

### 8. THE USE OF EVIDENCE

a. You demonstrate knowledge of the topic with the comprehensiveness of your research, which should reveal the important facts and ideas related to the topic. However, the sheer weight of facts does not constitute effective argument. Many papers incorporate exhaustive factual details, bogging down the reader in trivia, without ever drawing conclusions. Use facts tellingly, presenting only those details that are necessary. This does **not** mean presenting only one side of an argument, merely exercising judgment as to how much (and what type of) evidence you present.

b. When presenting evidence, assume the position of a critical reader who does not accept your stance. Anticipate objections, and structure arguments to counter them. Students often adopt an uncritical approach to evidence. Arguments that seem self-evident depending on one’s particular branch of service or Air Force specialty might not be so to those outside one’s specialty. It might, for instance, be obvious to the strategic bomber community that the United States needs fewer aircraft carriers and more bomber wings, but many readers—especially in the Navy—will not agree. Simply quoting an Air Force strategic bomber general repeatedly with the flat statement that bombers are better than carriers might meet with agreement from other Air Force officers, but a more critical audience is likely to be underwhelmed. You should strive to assemble facts and figures and to develop an analysis that is so logical and comprehensive that even a highly critical audience will see at least some merit in your position.

c. An argument that relies heavily upon quotations, anecdotes and memoirs is likely to be unconvincing. This is not to say that such sources should not be used. They should, rather, be used carefully and sparingly, in conjunction with factual evidence such as statistical analyses or historical examples. A paper that contains wonderful ideas but lacks the supporting evidence will not be remembered for those wonderful ideas but only for the lack of support.
9. THE LOGICAL DEVELOPMENT OF THE ARGUMENT

a. The argument of the paper should follow a logical problem-solving process. Argument, in this context, is defined as the layout of research and analysis in written form. You modify your approach over time, but you should still follow a logical path from articulating the argument through providing support to presenting a clear conclusion. Remember to present the results of research and analysis in logical, expository fashion in order to secure the reader’s understanding and acceptance.

b. Sections of the paper should be organized appropriate to the subject being presented and the nature of the argument. Listed below are four models:

1. SEQUENCING: Presenting material in a chronological fashion. Problems and issues are presented as events in a narrative.
   
   Example: Tracing the origins of strategic bombing doctrine

2. CATEGORIZATION: Breaking down material into its component parts and analyzing the problems and issues associated with each part.
   
   Example: Examining the role of Space Command in the Gulf War

3. COMPARING & CONTRASTING: Studying the similarities and differences between subjects, concepts, and ideas.
   
   Example: Comparing carrier strike aviation with USAF attack missions in the Gulf War

4. CAUSE & EFFECT: Studying the reasons for occurrences or outcomes of decisions and actions.
   
   Example: Determining why the Japanese surrendered in World War II

c. It is possible to use combinations of these models. The important thing is to determine the method of presentation that best represents your findings.

10. A GENERAL OUTLINE FOR A RESEARCH PAPER

I. Introduction
   A. Statement of the research question or thesis
   B. Background and significance of the problem
   C. Methodology
   D. Limitations of the study
   E. Definitions and assumptions, as necessary
F. Preview of the argument

II. Research Paper Body
   A. Facts, explanations, information
   B. Inferences and preliminary conclusions
   C. Case studies

III. Analysis and Evaluation
   A. Discussion of issues, counter-arguments, and/or challenges
   B. Principal findings
   C. Conclusions

(NOTE: Parts II and III may be combined in a sequence of chapters that link evidence and argument.)

IV. Conclusion
   A. Summary of findings
   B. Principal conclusions restated
   C. Implications of the study

(NOTE: This final section would normally be followed by endnotes for the whole paper as well as the bibliography, and any appendices. For questions involving endnotes, please refer to the AU Style Guide, Appendix A. For questions involving bibliographic entries, see Appendix B of the AU Style Guide. For any issues not resolved by use of the Style Guide, please use The Chicago Manual of Style (15th Edition) as the final authority.)

11. VARIATIONS

   A number of variations to this outline are possible and depend on your preferences and those of your instructor.

12. ACADEMIC INTEGRITY

   The most commonly experienced violation of integrity in research products is plagiarism. The student handbook contains a definition of plagiarism and helpful hints on how to avoid it. Please review this material closely. If you have any questions at all concerning the techniques or spirit of proper citation, address them with your advisor before submitting the paper.
13. TURN-IN PROCEDURES

a. Follow your elective instructor’s or academic advisor’s guidance for paper turn-in.

   1. Fall and Spring electives: due date is per course syllabus or NLT 19 Nov 2014 or 8 Apr 2015, respectively.
   3. Yearlong Research Paper: due date is per course syllabus or NLT 8 Apr 2015.

b. If your paper is submitted for an essay competition (see Appendix E), nominated for an award (see Appendix G) or otherwise identified as exceptional, you will receive further instructions from DER to upload your paper onto AURIMS for addition to MSFRIC’s resources. Correcting and improving your paper after turn-in for upload to AURIMS is allowed and encouraged. A Public Affairs Checklist electronic form (see Appendix H) for the research paper must also be completed on AURIMS. Reference the AURIMS Student User Guide located on the AURIMS “Help” menu at the top and click on “Student User Guide”.

EXTENUATING CIRCUMSTANCES: Contact your course instructor immediately! Without prior coordination, papers turned in after the due date will be marked late and graded accordingly.

14. PAPER GRADING

a. The grade assigned for this essay will be determined by the course syllabus.

b. Late Submissions: A letter grade of “C” will be given for failure to observe time limits or tardy submission of required product(s), but with extenuating circumstances. A letter grade of “D” will be given for failure to observe time limits or tardy submission of required product(s) without adequate excuse.

c. Grading Criteria: Refer to ACSC OI 36-7 for a complete discussion of grading criteria. Essays will be evaluated based upon demonstrated student competence in the following areas:

   1. Complying with all instructions to complete this assignment,
   2. Demonstrating the appropriate levels of learning stipulated by course objectives,
   3. Integrating relevant concepts and ideas presented in lectures, seminars and course readings,
   4. Conveying thoughts clearly given time and page constraints, and
   5. Analyzing the question and developing a logical, persuasive, well-written essay using appropriate support materials.
15. FEEDBACK

Essays will be returned and students will receive their grades and constructive feedback on approximately 18 May 2015. An opportunity for individual face-to-face feedback will follow and is determined by the class instructor.

16. SUMMARY

The research paper will challenge your ability to ask good questions, find relevant facts, interpret the significance of those facts, and communicate both the facts and your interpretation of them in balanced, yet persuasive prose. **These are essential skills for all officers, but especially those who are in staff and command positions.** As you encounter the inevitable frustration that arises from these challenges, work your way through them in the certain knowledge that the process will not only give you greatly increased expertise in the subject area of your papers, but will also produce demonstrable intellectual growth and confidence in your ability to reason through tough problems. The bottom line is that the benefits of the task will equal the intellectual and psychic energy invested.

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1 Much of sections 6g through 13 are taken verbatim from the SAASS Thesis Guide.
Research Proposal
Major Achiever/Student #

1. **Sponsor:** 8th Air Force. The need for more officers with doctoral degrees. Topic selected from AURIMS.

   *List any external sponsor of your topic. This may include a sponsor who listed a topic in AURIMS or an individual outside of AU who has requested a paper on a particular subject.*

2. **Working Title.** “Ph.D.s and Air Force Officers”

   *Your working title will likely be just a few words that capture the gist of the topic. Refine the title as research develops. The final title should let the reader generally know the thesis or purpose of the paper. It should also contain phrasing that will grab the reader’s attention. Cleared to Engage: Improving Joint Close Air Support Effectiveness was a 2007 award-winning paper. The title clearly conveyed the purpose of the paper and grabbed the reader’s attention with the dynamic beginning. Another 2007 award winning paper was AFSO 21: Identifying Potential Failure Points in Sustaining Continuous Process Improvement Across the Air Force. Again, the purpose of this paper is clear, and the reader is more likely to be caught by the idea of failure points in the Air Force.*


   *The research question is the broad purpose of your paper. In some cases, the research question may be very specific. In other cases, as in this example, it is broad. The answer to the research question is your proposed thesis.*

4. **Research Methodology.** Several methodologies will be used to conduct this research. First, I will conduct a survey of 20 ACSC faculty members who have received advanced degrees….

   *This section should focus on how you will go about answering the research question. For example, you may decide to conduct several focus groups or review primary source materials. The bottom line is that you must explain your plan to gain the knowledge necessary to complete the paper.*

5. **Problem Background and Significance.** The Air Force is faced with myriad challenges today that require new ways of thinking and understanding. Yet the Air Force has noticeably decreased funding for advanced education. In 1995, the Air Force sponsored….
This section describes the problem or situation you will research, and the potential contribution this research will have on the issue. For example, you may describe manning issues related to the cyberspace mission. Your proposal might describe the importance of the cyberspace mission and the importance of retaining experienced cyberspace experts. It is also important to convince readers of the paper’s importance. If someone reads the paper and asks “So What?,” you have failed to make your case. The “So What” factor is the most important element of making your paper interesting and important.

6. Sources. This paper will use a variety of primary and secondary sources. The primary sources include documents obtained from the archives of the Department of Education, Air Force Institute of Technology, and Department of the Air Force. Most of the documents used in this paper are readily available on the web. These documents are important to this research because…

The sources section demonstrates not only that you have identified sources for your paper, but you understand their relevance and availability. Depending on the subject, even writings from a year ago may no longer be relevant. You may have some great ideas about resources that you can use, but you should ensure you can actually access them. Your sources should also be scholarly. The Citations and Bibliography presentation by Dr. Matthew Schwonek provides excellent guidance on this issue.

7. Use of Data. My anticipated findings are that the Air Force has dramatically decreased the number of funded higher education opportunities in the humanities, and that this has resulted in a dearth of officers who can meet today’s complex challenges. This paper concludes that the Air Force needs to increase the number of officers with graduate degrees in history, political science, and social work if it hopes to meet the global security challenges of the 21st century.

This section should provide your reader with the anticipated findings and conclusions of your research. If you reach different conclusions once the paper is written, don’t worry. At this stage, your instructor just wants a feel for the direction your research is headed.

8. Initial Bibliography. List sources identified to date that are likely to be used in the research paper.

This may be as few as ten sources since it is an initial look at the proposed topic.
APPENDIX B – RESEARCH PROSPECTUS GUIDANCE

The Research Design Proposal will contain the following content:

1. **Updated Title.**

2. **Developed Thesis.** A more refined statement that establishes the argument that the researcher will pursue.

3. **Problem Background and Significance.** This should be a much more developed articulation of the problem than discussed in the proposal.

4. **Research Methodology.** Provide a detailed explanation of the methodologies you will use.

5. **Structure.** In this section, provide an outline for your paper.

   *Ideally, you should outline every section of your paper. The Craft of Research gives examples of both a topic outline and point-based outline (2nd Ed., pages 187-188 and 3rd Ed., pages 175-176). The topic outline generally contains single words and is probably not as useful for your proposal as a point-based outline. A point-based outline does just what it says—it lists the points that you want to make in your paper. Four or five words are often enough to capture the essence of your points.*

6. **Literature review.** A literature review provides a snapshot of previous research in your area of investigation.

   The Literature review establishes the values of research and how it fits in with other research. It brings the reader up-to-date on previous research that applies to the given study. In academic publications, the literature review demonstrates that the research (1) addresses a question [identified but] not investigated in previous studies, (2) fills the gap in previous research, (3) tests a model under different conditions, (4) corrects for errors in previous research, or (5) resolves conflicting research findings.

   *Research Methods for Public Administrators* lists three common formats for a literature review.

   a. Chronological Order. Discussion of past research completed in a sequential order.

   b. Organization of research into common variables or ideas. Finding themes that facilitate independent grouping (air power, sea power, land power).
c. Organization of research into concentric circles. Starting with a generic overview, proceeding to greater specificity in each subsequent circle, and ultimately reaching the source of the research question.²

7. **Preliminary Bibliography.** This bibliography represents a more extensive review of the literature than that done for the research proposal. In most cases, the preliminary bibliography should provide at least a 75 percent solution. Using the AU Style Guide, list all sources identified to date you are likely to use in the preparation of the research paper.

8. Other material as required by your research advisor.

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2 Ibid., 468-9.
SAMPLE Prospectus

1. SUBMITTED BY: John Doe, Maj, USAF

2. WORKING TITLE: “The Time is Now: Advocating a Professional Air Liaison Officer Corps in the US Air Force”

3. DEVELOPED THESIS: The expertise and manning required of Air Liaison offers demands the development of a unique ALO/TACP specialists.

4. PROBLEM BACKGROUND AND SIGNIFICANCE:

   The Air Force places a high priority on Air Liaison Officer (ALO) positions within an Air Support Operations Squadron (ASOS) and has done so since World War II. As experienced pilots and air power professionals, ALOs have historically provided air expertise directly to Army Operations Centers at upper organizational levels of the Army. However, the role of an ALO within the battle space has changed significantly since the inception of the liaison officer program. Permanent career enlisted Joint Terminal Air Controllers (JTACs) now provide the vast majority of direct control of combat Air Force aircraft on the battlefield, attached to the Army as a Tactical Air Control Party (TACP). Yet the creation of a parallel, permanent ALO/TACP officer corps to coincide with the JTAC career field has never been discussed. The Air Force relies solely on temporary 1- to 2-year ALOs, away from their primary specialty in high-demand fighter and bomber cockpits, to fill all of the officer billets within the ASOS organization and provide leadership, training, and mentoring for the enlisted force.

   Converting combat-ready aircrew into effective Air Liaison Officers and then retraining them back to operational status after their tours costs the Air Force more than money. These costs include drains on monetary, manpower, and leadership resources. The inherent dollar cost associated with training a pilot to become an ALO, and then re-training him to the qualification level he formerly maintained, seems obvious. Units experience loss at the departure of a pilot
assigned to ALO duty as well. An opportunity cost is incurred in losing an experienced pilot from the operational Combat Air Forces (CAF), due to the limited number of training sorties available in a flying squadron and the requirement to upgrade others to replace him. There’s also a cost within the ALO community of having very little continuity and stability, as newly trained pilots and navigators cycle back to the cockpit after their short tour. Finally, and perhaps most importantly, it costs the JTAC community to have no permanent officer leadership, forcing it to rely on senior enlisted personnel as the only true mentors and advocates of the career field.

The Air Force has previously accepted these costs as necessary in order to provide the Army with trained air power experts as ready advisors and coordinators to ground commanders. However, all these costs have risen during the past few years, with negative effects felt across both the CAF and TACP communities. The number of cockpits has been significantly reduced since the Cold War era, but the ALO/JTAC requirement continues to increase due to the Close Air Support and joint operations required of US forces in the War on Terror. Has the time come to examine whether the creation of a permanent ALO corps would be beneficial both to the CAF and the enlisted TACP career field?

5. METHODOLOGY:

The analysis will use problem-solution methodology to focus on total costs and impacts that the current ALO system presents to the CAF and TACP communities, and then scrutinize whether or not a permanent ALO career field might present a better long-term solution for all involved. Examining the impacts of the current system in the aviation career field, the paper will review total dollar costs for the ALO “lifecycle” (experienced pilot to ALO to experienced pilot). It will look at the current state of the combat aviator assignment world, and the ongoing problems of prioritizing required assignment billets across the CAF. It will also study current
and future strain on the active fighter/bomber units in experience levels, retraining capabilities, and available sorties. It will focus on these issues in the context of the ongoing budgetary shortfalls and projected cockpit drawdown created by the Base Realignment and Closure commission (BRAC). Primary sources will include cost data from Air Force Personnel Center (AFPC), current guidance published by fighter assignment personnel, current training and qualification data from active duty flying units across the CAF, and official BRAC timelines and end-state force projections.

Next, the role of the “temporary” ALO within the structure of the permanent TACP will be explored. Important issues to examine are the leadership model within the JTAC community in contrast to that common throughout the Combat Air Forces, current roles and requirements of the ALO, JTAC force structure and career development, present and future needs of enlisted JTACs, and operational tactics development and progression within the TACP. Sources will include interviews with senior enlisted JTAC career field advisors, current Air Force Instruction (AFI) guidance and requirements, Joint Publications relating to Close Air Support (CAS) tactics and procedures, articles documenting the incredible work of JTACs in recent conflicts, and feedback solicited from the JTAC career field at large through the unofficial community of practice website -- ROMAD.com.

Finally, the paper will consider the possible benefits of the creation of a permanent ALO officer corps. The paper will address which specific problems examined earlier among the CAF and TACP communities might be solved by the formation of such a corps. Additionally, the paper will suggest what an optimal end-state would be, both within the ASOS and across the CAF. Sources will include prior research on this topic, as well as interviews with senior staff officers at ACC and Air Force levels.
3. LITERATURE REVIEW: As described above.

4. STRUCTURE: The following outline provides a notional model of what might expected of a paper written for the spring extended research program.

   I. Introduction
      A. Brief History of the Air Liaison Officer (ALO)
      B. Overview of Problem and Thesis
   II. Current Picture of the ALO in context of the Combat Air Forces (CAF)
      A. Dollar Costs of ALO production
         i. Cost to Produce a Mission-Ready Pilot
         ii. Cost to Produce a Mission-Ready ALO and PCS to new unit
         iii. Cost to Re-train to Mission-Ready status and beyond
      B. Assignment System Impacts
         i. Current Assignment Outlook
         ii. Historical Comparison
         iii. Future Vectors/Consideration (BRAC)
         iv. Impact on Rated Career Cycle / Progression
      C. CAF Active Flying Squadron Impacts
         i. Reserve training Unit (RTU) Strain
         ii. Training Impacts and Outlook
         iii. Air Expeditionary Forces (AEF) Impacts
         iv. Qualification / Proficiency Impacts
   III. Tactical Air Control Party (TACP) and ALO Interaction and Impacts
      A. Leadership Model Comparison
         i. Air Support Operations Squadron (ASOS) Leadership Model
         ii. Typical Air Force Leadership Model
         iii. Disparities and Impacts (Qualification / Evaluation / Certification)
      B. ALO Roles and Requirements
         i. Roles in Army Tactical Operations Center (TOC) / Air Support Operations Center (ASOC)
         ii. Roles in ASOS
         iii. Proficiency Requirements / Timeline
         iv. Leadership Desire/Proficiency
      C. Joint Terminal Air Controllers (JTAC) Career Progression
i. Examples of Tactical Success in Combat
ii. Career Assignment / Progression
iii. ALO/JTAC relationships – Case Study
   1. Knowledge / Proficiency Issues
   2. Respect / Leadership Issues
iv. Mentorship / Advocacy in Career Field
   1. Mentorship of troops
   2. Advocacy/Representation at Command Levels
   3. Air Force Instruction (AFI) Generation
   4. Equipment Procurement and Acquisition
D. TACP Tactics Development
   1. Current Capabilities and Guidance
   2. Evolution of Tactics, Techniques and Procedures (TTP)
      a. Weapons School Development
      b. TTP Guide Rewrites - Coordination and Representation
IV. Development of Professional ALO Officer Corps
   A. Correct Force Structure
      i. Permanent ALO Corps versus Temporary Aviator ALO Balance
      ii. Converting Rated Billets / AFPC impacts
   B. Training and Career Start-up
   C. CAF Impacts
      i. Costs / Assignments
      ii. Flying Squadrons
   D. TACP/ASOS/JTAC Impacts
      i. ALO roles, Requirements, and Proficiencies
      ii. ALO/JTAC Relationships
      iii. Leadership/Mentorship/Advocacy in Career Field
      iv. Tactics Development Impacts
   E. Future ASOS/TACP Structure
      i. Leadership Model
      ii. ALO/JTAC Career Progression
V. Conclusion
   A. Implementation Recommendation(s)
B. Broader Implications

i. Future of Joint Army/Air Force Operations

ii. Future of USAF TACP in Context of Current Conflicts
Preliminary Bibliography


Chief MSgt Steven Buhrow (JTAC Career Field Chief Enlisted Advisor), interview with the author.

Derek R. Wyler, “A Study of the United States Air Force Requirement to use Rated Officers to Fill Air Liaison Officer Positions” (Graduate Research Project Proposal, Embry Riddle Aeronautical University, July 2002).


Major Miles Simon (F-16 Assignments Officer, AFPC), interview with the author.


Thomas Peck (ACC/A3Y ASOC Chief of Modernization), interview with the author.

The following guidelines comprise the minimum requirements for papers.

a. **Page Set-up.** The parameters for the ELA 606/ELB 606 Research Papers are
   1. 1-inch margins on all sides
   2. Times New Roman – 12 point for all text
   3. The body of the text must be double-spaced (except block quotations)
   4. Student name/AY15 aligned left, header on each page
   5. Page # centered in the footer of each page

   ![Header - AU/ACSC/Last Name, First Initial/AY15
   Borders - 1 inch on top, bottom & sides
   Font - Times New Roman, 12 point (proportional font)
   Spacing - double
   Footer - Centered page numbers (start at “1”)]

b. **Front matter.** The preferred format follows the Military Journal Article Style and includes a title page and a disclaimer (see example below). The alternate format (Academic Paper Style) should include at a minimum a title page, disclaimer, table of contents, and abstract. It may also include a preface, list of tables, list of illustrations, etc. Instructors will establish the requirements for their respective classes. A front matter template for both the Military Journal Article style and the Academic Paper style is included in Appendix D.

c. **Pagination.** Every sheet of paper in your research paper must be numbered *except* for the title page. This includes references, appendices (if applicable), and the bibliography. Roman numerals are used for the preliminary pages (from the disclaimer to the last list of figures page). Roman numeral “ii” is the first number used and appears on the disclaimer. Arabic numerals are used for all other pages. The next sheet of paper following the last preliminary page, no matter what is printed there, is numbered "1" and then so on to the last page of the research paper. Do not use letter suffixes (e.g., 10a, 10b, etc.).

d. **Citing Sources.** Use long endnote style (see AU Style Guide, 5.1).

e. **Table of Contents.** All section headings and/or chapter titles (if applicable) will be included in the table of contents.

f. **Internal Formatting.** The use of chapters, sections, or headings will be at the discretion of the CI.

g. **End matter.** In addition to long endnotes, complete a full bibliography (see AU Style Guide, 5.2). This should cite all documents referenced as well as those used for background in preparing the paper. Papers may also include appendices, abbreviations list, or other material as required.
APPENDIX D – RESEARCH PAPER TEMPLATE

Preferred Format – Military Journal Article Style

1. Short Research Paper: Written as the final graded instrument (ELA 606 or ELB 606) for the elective classes, these short research papers parallel those written by students in other Joint Professional Military Education (JPME) programs at the mid and senior levels. The length of these papers is limited to 1,500 words (This count does not include endnotes, graphs, appendices, bibliography or other matter.). Similar in length to many current JPME course papers, these papers help students produce scholarly yet tightly focused research that appeals to a wider audiences, thereby increasing the overall effectiveness of the paper. These papers also match the criteria for the Chairman of the Joint Chiefs of Staff’s Strategic Essay Contest (Strategy Article Category) which provides a further benefit. For more information on this contest or examples of winning papers, see the National Defense University website (http://ndupress.ndu.edu/EssayCompetitions/CJCSCompetition.aspx). A template for the Military Journal Article Style front matter (title page and disclaimer notice) is included in the following two pages.
AIR COMMAND AND STAFF COLLEGE
AIR UNIVERSITY

TITLE

by

[First M. Last], [Rank], [Service]
[additional graduate degrees, if applicable]
[country, if applicable]

A Research Report Submitted to the Faculty
In Partial Fulfillment of the Program Completion Certificate Requirements

Advisor: [Title First M. Last]

Maxwell Air Force Base, Alabama

November 2014 / April 2015
Disclaimer

The views expressed in this academic research paper are those of the author(s) and do not reflect the official policy or position of the US government or the Department of Defense. In accordance with Air Force Instruction 51-303, it is not copyrighted, but is the property of the United States government.
Abstract

All Air University research papers may contain an abstract. The length of the abstract should not exceed two pages. It should be roughly 200 words. The abstract is the last item included in the prefatory material. It summarizes the information contained in the report. The main items described in the abstract include the problem statement, the methodology followed in conducting the research, the findings, and the conclusions. Obviously, it is impossible to say very much about all aspects of the paper in 200 words; but the reader should at least be able to discover the content and the methods used by reading the abstract. The abstract presents a succinct statement of the key aspects of your research. Students should be aware that abstracts are usually republished in other reference volumes or electronic databases, including the Air University Research database. Republishing helps other researchers keep informed about developments in the field or provides a means of identifying reports they may want to obtain and read.
Endnotes

5 Ibid., 2.8
Bibliography


2. *Extended Research Paper*: Students who opt into the Extended Research Option will write these papers under the direction of a Faculty Research Advisor (FRA). Admission to this program must be accomplished no later than 13 November 2013, and requires the permission of an FRA and DER; accomplished through a memorandum of commitment (Appendix F). For those FRAs who require the preferred format -- Military Journal Article -- papers should be limited to 5,000 words, not including endnotes, graphs, appendices, bibliography or other supporting matter. You may still use the template for the research paper. The only difference will be in the length of your writing.

The extended research paper provides students with sufficient skill and background to delve more deeply into a topic and to provide more developed recommendations to policy makers. They also represent a key component of staff work common on large programs and parallel the requirements for the Chairman of the Joint Chiefs of Staff’s Strategic Essay Contest (Strategic Research Category) as well as the Secretary of Defense Essay Contest. For more information on these contests or examples of winning papers, see the NDU websites [http://ndupress.ndu.edu/EssayCompetitions/CJCSCompetition.aspx](http://ndupress.ndu.edu/EssayCompetitions/CJCSCompetition.aspx) and [http://ndupress.ndu.edu/EssayCompetitions/SECDEFCompetition.aspx](http://ndupress.ndu.edu/EssayCompetitions/SECDEFCompetition.aspx). Finally, these papers also parallel a number of other external contests outlined in Appendix E.
If applicable, the following are the approved methods for formatting these sections.

- Contents
- Illustrations
- Tables

## Contents

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APPENDIX E – CONTEST INFORMATION

External

**SOCOM/JSOU Essay Contest**
- Sponsor: SOCOM
- Topic: Any special operations related topic
- Eligibility: All
- Guidelines: NMT 5,000 words
- Suspense: Early January
- Contact: [https://jsou.socom.mil/Pages/Default.aspx](https://jsou.socom.mil/Pages/Default.aspx)

**General Prize Essay Contest**
- Sponsor: US Naval Institute
- Topic: Any subject relating to the mission of the Naval Institute: "To advance professional, literary, and scientific understanding of sea power and other issues critical to national defense."
- Eligibility: All
- Guidelines: Up to 2,500 words
- Suspense: Late July

**CJCS and SECDEF Strategic Essay Contest**
- Sponsor: National Defense University
- Topic: Strategic and security issues
- Eligibility: ISS or SSS students
  - SECDEF—Strategic research paper (up to 5,000 words)
  - CJCS—National Security essay (up to 5,000 words)
  - Strategy Article (up to 1,500 words)
- Suspense: 1 April
- Contact: [http://ndupress.ndu.edu/EssayCompetitions.aspx](http://ndupress.ndu.edu/EssayCompetitions.aspx)

**Cold War Prize Competition**
- Sponsor: John Adams Center at VA Military Institute
- Topic: US military in the Cold War era -- Any aspect w/ papers on intel, logistics, and mobilization especially welcome. Essays on Korean War, Vietnam, counterinsurgency open for consideration
- Eligibility: All
- Deadline: February
- Note: *Journal of Military History* will consider winners for publication.
- Contact: [http://www.vmi.edu/content.aspx?id=4025](http://www.vmi.edu/content.aspx?id=4025)
**DePuy Writing Competition**
- Sponsor: *Military Review*
- Topic: Various Army related topics
- Eligibility: All
- Guidelines: Original unpublished research, generally up to 5,000 words
- Suspense: Early July
- Contact: [http://militaryreview.army.mil](http://militaryreview.army.mil)

**US Naval Institute Essay Contests**
- Sponsor: US Naval Institute
- Topic: Various
- Eligibility: Any military or civilian author
- Guidelines: Up to 2,500 words
- Suspense: Various
- Contact: [http://www.usni.org/essay-contests](http://www.usni.org/essay-contests)
APPENDIX F - MEMORANDUM FOR COMMITMENT TO PARTICIPATE IN EXTENDED RESEARCH PROGRAM

DATE_______________

MEMORANDUM FOR DER

FROM: Student/Seminar/Elective Class

_______________________________________/___________________/______________________________

SUBJECT: Memorandum of Commitment to participate in the Extended Research Program

1. Elective instructor signature authorizing student to participate in program.

   Elective Instructor________________________________________
   Signature_______________________________________________

2. Faculty Research Advisor name and signature (Only required if different from elective instructor).

   Faculty Research Advisor__________________________________
   Signature_______________________________________________


   ____________________________________________________________________________
   ____________________________________________________________________________
   ____________________________________________________________________________
   ____________________________________________________________________________

4. I hereby acknowledge my desire to participate in the Extended Research Program.

   Signature
   __________________________________________

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ACSC Research Awards Program (OPR: DER). The ACSC Research Program recognizes excellence in student research. The Dean of Academic Affairs (DE) governs research product awards through the Department of Research and Publication (DER). Refer to ACSC Operating Instruction 36-13, Student and Faculty Special Recognition Programs, 14 Jul 2011 for a representative list of research awards.
Appendix H – Public Affairs /Security and policy review Checklist

1. Complete the Public Affairs Checklist located on AURIMS.
   a. BOX A – Document type
      Check “Student Research” for your research paper
   b. BOX B – Document Title
      Enter the physical number of pages
   c. BOX C – Author(s) Name, Duty Title, Office symbol
      No entries required
   d. BOX D – Release and Distribution
      Read this section. No entries required
   e. BOX E – Event/Publication/Sponsor
      No entries required
   f. BOX F – Author’s Acknowledgement
      Read section
      Check “Yes” or “No”
   g. BOX G – References
      Read and check “Yes” or “No”
      Answer will typically be YES for unclassified papers
      If you have questions, please check with your research advisor
   h. BOX H – Content
      Read all and check “Yes” or “No”
      First two answers will typically be YES for unclassified papers
      Next ten answers will typically be NO for unclassified papers
      If you have questions, please check with your research advisor
   i. BOX I – Remarks
      Explain any atypical answers from boxes G or H in this section
   j. BOX Approving Official Certification
      Leave blank
   k. BOX AU/PA Notification
      Leave blank

Complete the checklist by answering the questions and click “Update” at the bottom. You will be redirected back to the research update screen. Select “Submit for faculty review” and select a DER faculty member.