**BIS 3800**

**Introduction to Capstone and Graduation Preparation**

**Course Guidebook**

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**Chapter 1**

Combining Varied Areas of Study into a Capstone Project Idea

Early in the process of choosing coursework and a capstone project, it is important to ponder how you could combine and integrate your three areas of study. As a starting point, ponder your areas of study and search for connections between them, and then begin to think up topics that would allow you to explore these connections. Think back to courses you have taken and what topics sparked your interest. What ideas have stuck with you?

Here are four activities you can do that will help you productively explore what to do for your capstone project:

* Create a separate list for each discipline that will provide the basis for your project: Write down all of the reasons you were drawn to each discipline
* Identify common themes on the lists you created above and use the commonalities as a starting point for identifying what types of projects you might be interested in completing.
* Brainstorm with professors, advisors, family members, and friends about what types of projects could be done to incorporate the common themes listed above and write all suggestions down in a list, no matter how outlandish some of the ideas may sound. Reviewing the list several times for a week or two (or more) will provide processing time, and during that time, specific ideas may take shape and become more promising than they appeared initially.

 A required assignment for this week will be the Capstone Topic and Interdisciplinary Studies Process Worksheet. The first is a template of what to do once you have decided on a narrow topic, look at which disciplines could be involved, and decide if the areas of concentration you have fit the best to solve or better understand your complex problem or phenomenon. Complete both the *Capstone Topic Worksheet* and the Integrative Process Worksheet. (The forms are in the Canvas assignments; submit your completed forms there.)

**Capstone Topic Worksheet**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **List your three Areas of concentration:**
2. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
3. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
4. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2. What topic has captured your interest for a capstone project? Write the answer to this question as a complete sentence; be specific and clear. If appropriate, formulate your topic as a question to be answered to give you focus and direction.**

1. **Does this topic incorporate all three of your areas of concentration equally? Explain**
2. **How will you demonstrate, in your final product, that you have used theories and knowledge from all three areas of concentration?**
3. **Do you feel passionate about this topic? How does your topic act as a stepping-stone towards your educational and/or career goals?**
4. **How does this topic relate to your work experience or any other non-academic skills and interests you have, and how can you use that experience to enhance your project? (It may not necessarily relate to your work experience, which is fine too.)**
5. **List three challenges you will face with this topic and brainstorm possible solutions:**

Integrative Process Worksheet

Newell's Conception of Interdisciplinary Study (1983)

1. Become struck by a “confrontation” with a complex phenomenon.

2. Formulate an interdisciplinary question.

3. Gather all relevant disciplines.

4. Consider the problem/question through the perspectives of each discipline, one at a

time.

5. Gather together all the insights gained from each discipline.

6. Evaluate all the insights.

7. Fashion an interdisciplinary response to the question.

8. Critique if this approach is the best combination of perspectives to solve this problem better or improve the understanding of this phenomenon.

Step One:

Complex Phenomenon:

• Why is it complex?

• Why are you interested in this phenomenon/problem?

• What future relevance does studying this problem have for me?

Step Two:

Formulate an interdisciplinary question

Step Three:

Relevant Disciplines-

Steps Four and Five:

Consider the problem/question through the perspectives of each discipline, one at a

time.

*Discipline Disciplinary Perspective*

Step Six:

Evaluate all the insights.

Step Seven:

Fashion an interdisciplinary response to the question.

Step Eight:

Critique if this approach is the best combination of perspectives to solve this problem better or improve the understanding of this phenomenon.

 (Exercise from Augsburg, 2006.)

**Chapter 2**

**Capstone Project Overview**

**Overview of Capstone Project Options**

**Capstone Project Overview**

There are four types of capstone projects: Primary Research, Secondary Research, Creative, and Community-Engaged Projects. No matter which you choose, every capstone must include a considerable amount of writing, evidence of research in all areas of concentration, substantial analysis, which can be quantitative and/or qualitative, and integration of the three areas of concentration into a single, focused project:

During your course of study, choose classes from your three disciplines that will prepare you for the capstone. For example, you may need skills from a research methods class, a course in statistics, or a writing class to complete your project. Be sure to choose a topic that:

* Integrates your three areas of concentration equally in a single project.
* Focuses on a topic about which you feel passionate and committed.
* Demonstrates appropriate research skills and methodologies.
* Results in a final project that will contribute to knowledge on the topic.
* Includes a finished written component that will be placed in the library.
* Acts as a stepping-stone towards your career or graduate school goals.

*The Finished Product*

Whatever form your project takes, your final product should be a bound, hard copy that will be permanently housed in the Stewart Library. Whether you write a research paper or do a hands-on Service Learning Project, your final bound copy should include a reformatted version of the BIS *Capstone Cover Page* (found on the BIS Webpage, in the BIS Student Handbook, and at the end of this chapter) so the librarians have all the information they need to catalog your work. Along with the bound copy for the library, you will also make three hard copies, one for each member of your committee, which you will give them at least a week before your oral defense. Please ensure that the final product is polished and professional in appearance.

### Approximate Length of the Finished Product

**Primary research projects and secondary research** papers are generally 25 to 30 double-spaced pages in length, with at least 5-7 references per area of concentration. Please note—this is a minimum, not a maximum. Committee members may ask for more references.

If you are doing a hands-on project (**a creative project of a community-engaged project),** you will want to keep a log and document all the work you did, as your committee will not see that. By the time you have included lesson plans and/or documentation of your time and work and/or assessment of your project, along with a 10-15 page double-spaced support paper, you will probably produce about 25-30 pages. You must have at least 3-4 references per area of concentration for your support paper. Your committee members may ask for more references.

### Basic Form of all Capstone Projects

Capstones vary considerably, depending on the topic, but most of them follow this basic form:

* An introduction explaining what you are doing and why to clearly articulates your thesis.
* An explanation of how all three disciplines are represented in your work.
* Descriptions of what you found or learned and how it supports (or, in some cases, does not support) your original thesis.
* A conclusion that acts as an analysis or assessment of what you did. If you are doing a research project, you will answer your thesis question in your conclusion. For example, if you work on how art therapy can help autistic children, you will end your paper by giving your conclusions and explaining how you reached that opinion. If you are doing a hands-on project, you will try to answer questions like “What worked?”, “What did not?” “How can you tell?” “Who benefitted from your work?”

#### Four Basic Types of Capstone Projects

**Primary Research**

# Start with a focused research question, collect primary data, and analyze it. Depending on your discipline, you could do historical research in the archives, oral interviews, scientific experiments, surveys, or find other means of data collection. If you choose this route, keep these considerations in mind:

* Choose a faculty mentor to help you. This should be a person who:
	+ Shares academic interests,
	+ Is organized and responsive to students,
	+ Has enough time to mentor you through this process fully.
* Complete Informed Consent Forms through the Weber State University Institutional Review Board (More on this in Chapter 6 of this text) if you use human subjects.
* Create a manageable, narrow project in scope and appropriate for the undergraduate level. You must write a support paper, usually 25-30 pages, with 5-7 scholarly references per area of concentration.

**Secondary Research**

This type of project consists of reading, examining, studying, summarizing, and integrating research completed by others with the intent of answering an original thesis question or supporting other scholarly or service-related work. The knowledge you gather is not original, but you do something with it that has not been done before.

One type of secondary research project could involve communicating the knowledge you have gained to a broader audience. For example, you might design:

 A resource guide for single mothers in Northern Utah (ChFam; Comm; WS)

 A plan to decrease waste in a factory’s cookie production (MFET; SST; Math)

 A workshop on good nutrition for kidney dialysis patients (Nutri; Psych; Chem)

If you choose this option, consider the following questions:

* What problem or issue are you addressing?
* Why are you addressing this problem?
* How will you go about your project?
* How will you measure your success? For example, a pre and post-test could assess whether the workshop you design has had any effect.
* Who is your audience? You may well have two audiences. For example, the single moms in Northern Utah want accessible and helpful information from a resource guide; your capstone committee wants to know where your information came from, how you gathered it, and why you organized your guide the way you did. If you have two audiences, plan on producing a two-part capstone: the resource guide/workshop/program for your target audience (i.e., Mothers in Northern Utah) and a supporting document for your academic audience (i.e., your Proposal Committee). You will give both completed parts to your capstone committee for your final product.
* What is your final product? For example, if you are writing a resource guide, you will need to provide a support paper appropriate to your disciplines and include a complete bibliography citing your sources. **Your reference list must use the correct citation format for your discipline. Consult with your committee about their preferred citation styles.**

Another type of **secondary research** is a **literature review**. This means you determine a topic to study in-depth, and then read, summarize, and integrate other people's research findings into a paper that offers a summary of the state of past and current research on the subject and offers a discussion of where it might be going in the future. You will draw conclusions based on what you learned from studying the research of others. Literature reviews start with a precise question that captures what you are trying to discover. For example, you could ask: "What is the best treatment for Parkinson's Disease?" (Chem; Zool; Psych). Begin by writing an introduction that explains what question you are asking, why it is important, and why a literature review is appropriate. Then read approximately 7-9 scholarly articles per concentration area, two or three recently published books, and no more than three creditable Web sites on the subject.

At your **proposal meeting**, reach an agreement with your committee on exactly how much reading you will be required to do and how many sources you will need. As you write your final paper, demonstrate what you learned from the articles, books, and websites by discussing similarities and differences in findings. Does there seem to be a consensus regarding your topic or question? Are there conflicting opinions or research results? Use your findings to answer your initial question. As a final product, you will be expected to produce a 20 to 30-page paper with correctly formatted citations and a reference list, **using the citation style appropriate for your areas of concentration. (Consult with your committee members.)**

**Community-Engaged Learning Project**

This option blends academic study and community service. Through community-engaged learning, you connect classroom instruction and real-life situations in a thoughtful way. You will do a volunteer project for a non-profit agency or educational institution (but not a church, synagogue, mosque, etc.), approved by your capstone committee. Then, demonstrate what you have learned by writing a reflective journal and a 15-page project support paper.

If you do a service-learning project, you will be expected to:

* Create and complete a particular project for your agency. It is not enough just to put in volunteer hours.
* Write a focused goal and plan for your service project as part of your Proposal.
* Sign a contract with the agency, clearly outlining expectations on both sides.
* Work out a contract of hours per week with the agency, sufficient to satisfy the agency and your capstone committee.
* Write one single-spaced journal page for every hour you spend doing volunteer work, showing what you did and how you responded to these experiences.
* Write a 15-page project support paper where you describe how your three areas of concentration informed your work. The purpose of your paper is to show how you have integrated best practices and theories learned in your three areas of concentration. Your paper will be formatted appropriately to your disciplines, including a complete bibliography citing your sources **and using the appropriate style to your disciplines. Consult with your committee as to their preferred styles.** You are expected to use 3-4 references per area of concentration for your support paper.

Before embarking on this project, please find and print out the paperwork accompanying the project. It can be found on the BIS homepage.

**Creative Project**

You can choose to do a creative capstone project that brings something new into the world. For example, you may:

* Design a website or app.
* Write a children’s book.
* Create an animated short film.
* Produce an educational pamphlet.
* Write and perform a musical composition.
* Mount an exhibition of your artwork.

If you choose this option:

* Be sure your topic involves all three concentration areas.
* Actually produce your creative capstone. In other words, put the website out on the internet; give a concert showcasing your musical composition; perform your original dance.
* Ensure that your capstone committee attends or sees your creative project when you produce it.
* Produce a copy of your work for the library: for example, a CD, video, or tape.
* Write a 15-page project support paper that explains *what* you are doing, *why* you are doing it, and *what research* (short review of relevant literature) you did to bring it into being. Your paper should show how you have integrated the knowledge and skills learned in your three areas of concentration. It should be formatted appropriately to your disciplines, including a complete bibliography citing your sources **using the appropriate citation format for your disciplines. Consult with your committee about their preferred citation styles.** You are expected to have 3-4 references per area of concentration for your support paper.

# **General Steps for Completion for All Types of Capstones**

Here are the steps you will follow to complete any of the above capstone project options:

* Take BIS3800 at least three semesters before you plan to graduate if possible.
* After completing BIS3800, register for BIS4800 close to the semester that you plan to complete the project. It usually takes more than one semester to complete your project, and you only have to pay for BIS 4800 once.
* Put together your Capstone Committee.
* Discuss your **proposal** (that you created in BIS 3800) with your prospective committee members and invite them to be on your committee.
	+ \*Please note that it is okay if you decide to change your proposal after completing BIS 3800. All you need to do is send your new proposal to the program director via e-mail to be reviewed and approved.
* Hold a **proposal meeting**. Find out your committee members’ communication preferences. Let them know how often you will get in touch with them, who will be the chair of your committee, and that you will work with the WSU Writing Center to put your paper in the correct format.
* Work on your capstone project: send your committee drafts regularly, so they have the time and opportunity to give you feedback. Keep sending drafts and incorporating feedback until all three of your committee members have agreed that no further revision is needed. After this milestone has been reached, it is time to move on to the next step.
* Call a **defense meeting**, making sure each member of your committee has at least two weeks to read the final draft of your project before holding the oral defense. Once it is acceptable to them, schedule your **defense** with your committee and *make sure the BIS director is there.* **Remember to contact the BIS administrative assistant for help with scheduling—the director does not make appointments.** Tell what you learned and your next steps after graduation, not what you did for your project since they are well acquainted with it already. Work out the details of getting them a hard copy of your support paper. *You usually get them a hard copy after your defense if there are any more revisions to be made. Consider writing them each a thank you note for mentoring you and giving you their time.*

##### Capstone Project Grading

Your Capstone Committee will award a final grade at your oral defense. This grade will be based on the **BIS scoring rubrics found**at <https://weber.edu/BIS/grading.html>

You must give your committee a final version (**that requires no more feedback from committee members or further editing**) of your capstone at least **a week** before your oral defense.

If your Capstone Committee does not feel that you are ready to defend and/or pass your defense, your defense will be canceled by the BIS Program Director.

# Final Thoughts

Stay in close touch with your committee members. Send them drafts regularly, e-mail or visit during office hours to update your faculty on the progress you are making.

* Make sure your committee members have at least two weeks to read your final capstone paper and approve it before they come to your oral defense.
* Begin the oral defense scheduling process early: a month ahead of when you want to hold the meeting. Make sure your committee has at least a week to read your work before the oral defense meeting.
* Keep a working binder that documents each step of the Capstone process, committee comments, reference articles, draft copies, and ultimately, the final Capstone product.
* Take a look at the completed BIS projects on the BIS website.
* Regardless of the type of capstone project you decide to complete, your thesis question should be the guiding light for the entire project. Remember, your thesis question should be narrow enough to clearly explain, clarify, and quantify (if applicable) a specific topic. It should cover only what you will discuss in your final or support paper. It should be supported with relevant scholarly, literature-related evidence. **Capstone forms are available for you on the BIS website** <https://weber.edu/BIS/resources.html>

**Chapter 3**

**Capstone Project Option: Primary Research/Mentored Undergraduate Research**

**The Process of Completing a Primary Research Project**

This capstone option allows students to use the knowledge gained from coursework and original research. By completing a Primary Research Capstone Project, you gain research experience that can be used in your future careers or graduate school.

***Consider the following:***

# You must start with a focused research question and then collect primary data that you analyze.

# Depending on your discipline, you could do archival research, conduct oral histories, conduct scientific experiments, or do survey research.

# Choose a faculty mentor to help you. This should be a person who:

* + Shares academic interests,
	+ Is organized and responsive to students
	+ Has enough time to fully mentor you through this process
* Complete Informed Consent Forms through the Weber State University Institutional Review Board if you use human subjects. (The IRB Board is a group of WSU researchers who review proposed projects that involve human subjects to ensure that the rights of the participants are protected, that informed consent for participation is obtained, and that possible benefits of the research outweigh the possible risks to participants.)
* Create a manageable, narrow project in scope and appropriate for the undergraduate level.
* Remember that the purpose of your capstone project is to demonstrate what you have learned in your three disciplines and to synthesize that knowledge in a single project.
* Your capstone committee must approve your Undergraduate Research Capstone Project.
* Make sure you integrate what you learned from completing the research project in light of your three areas of concentration.  Here are some questions to guide your thinking:
	+ What skills and knowledge from each discipline helped you complete this project?
	+ What conclusions can you draw from your research that contribute to your areas of concentration?
* If your project involves human subjects, you will have to complete the IRB paperwork for legal coverage.  This process takes time, so start early, preferably the semester *before* you plan to complete your capstone.  For more information, look at: [www.weber.edu/irb](http://www.weber.edu/irb)
* Think about what your final product will look like.  How will you organize your paper to include all aspects of the research you completed effectively? Most capstone research papers are 25-30 pages long and need at least 5-7 scholarly references per area of concentration.

## Creating Thesis Questions or Focused Explorations for Research Projects

Take a moment to envision what types of questions you are interested in asking about phenomena related to your areas of concentration. Here are some examples of primary research topics:

* How did the writings of Joseph Heller, Noam Chomsky, and Howard Zinn affect post-War American political discourse?
* How did religion and economics affect the integration of Utah into US society during the late 19tth century?
	+ Are there fewer Canadian Geese migrating through the Willard Bay area in Utah now than in 1969? Results of a comparison of numbers recorded in Spring of 1969 and numbers recorded in Spring of 2009 will be presented along with a discussion of possible reasons that might explain noted changes or the lack of noted changes.
	+ Will a sustained exercise program decrease cravings for simple carbohydrates in morbidly obese women? Results from a six-week self-report study will be presented.
	+ How much vigorous physical activity do 6th-grade children engage in during recess at school? Results of a 6-week observational study of 2 cohorts of 6th graders observed during recess periods at school.

## The Weber State University Office of Undergraduate Research

The Weber State University Office of Undergraduate Research (OUR) has funding for undergraduate research projects. They also host an Annual Undergraduate Research Symposium where students have the opportunity to present their projects formally at a professional/scholarly conference. Information about the OUR can be accessed at: <https://weber.edu/our>

WSU values undergraduate research. As you are working on your capstone, take advantage of the opportunities to support and encourage your research. These are some of the exciting opportunities that you will find at WSU’s OUR:

*Grants*

The WSU Undergraduate Research Grant Program is intended to facilitate student research and creative activity in all disciplines, to encourage collaboration between students and faculty on sustained projects of significant educational value to the student, and to enhance the overall undergraduate experience through active engagement in the process of discovering and sharing new knowledge.

All currently enrolled students are eligible to apply. Students must work with a WSU faculty or staff member whose role is to serve as a mentor to the project, complete a Mentor Recommendation Form, and sign the Grant Application Form.

The maximum amount of a single grant is $3000. Grant money may be requested to cover the following project-related expenses (NOTE: retroactive expenses are NOT eligible for reimbursement):

Materials (left-over materials purchased with this grant will remain the property of WSU) Equipment (equipment purchased with this grant will remain the property of WSU) Student travel to gather data for the project

Student travel to present project results (if the student was selected to present the project at a conference, exhibit, or recital)

Student stipend during some or all of the time required to complete the project (this is taxable income)

For more information, look at the "Grant Application" section of the Undergraduate Research website.

***Annual Symposium***

At the Weber State University Annual Undergraduate Research Symposium, undergraduate students may apply for the opportunity to give formal presentations or displays of original research, scholarly or creative activities in all academic areas. Presentation formats may be as diverse as the fields they represent but must be appropriate to the discipline. Applications must be received by March most years. For more information, look at the symposium information on the OUR website <https://weber.edu/our>

*National Undergraduate Research Conference*

WSU sponsors the students with the best undergraduate research projects presented at the Weber State University Annual Undergraduate Research Symposium to attend the national annual conference. See the "National Conference on Undergraduate Research" section of the Undergraduate Research website for more information.

***Here are some past examples of student Undergraduate Research projects presented at the WSU Undergraduate Research Symposium:***

* Constructivism: Comparing the “Cognitive Complexity” of Communication, Business, and Mathematics Majors
* Basque Festivals in the American West
* Propaganda and the Ideal Citizen During World War II
* General Anxiety, Depression, Social Anxiety, and Social Support: Prevalence and Comorbidity among College Students
* The Migration of Plants and Culture: The Presence of Traditional Mexican and Central American Medicinal Plants in the Latin Markets of Ogden
* Survival of Escherichia coli in Bruised Apples and Salmonella Enteritidis in Tomatoes
* The Biological Effects of Shift Work: A Correlation between General Health Markers and Cortisol Production in Law Enforcement Personnel
* The Impact of Podcasting on Learning
* Sierra Leone: A Case Study of Civil War and International Jurisprudence
* Photographing Folklore: Ogden’s Underworld
* Epidemiology of community and hospital-associated Methicillin-Resistant Staphylococcus aureus in Salt Lake City, Utah
* Sex & Gender Differences in Learning Styles
* El Legado de los Eventos de Ernesto “Che” Guevara a las Futuras Generaciones
* “Maybe you can help me.”: Negotiating Masculinity in Feminine Space.
* The Effect and use of Pilot Tubes on Various Coagulation Studies
* Cultivation Theory Supports the Effects of Negative News on Society

For more information about Primary Research, go to <https://www.weber.edu/BIS/project-faq.html> > What are the various types of Capstone projects

**Chapter 4**

**Capstone Project Option: Secondary Research**

This capstone option allows the student to ask a scholarly question about a phenomenon of interest and then answer that question by studying existing research on the topic.  After answering the question, many students create a practical component to demonstrate the real-world use of the information they gained from their research. For example, a student might create a resource guide or an educational website to share their knowledge with a larger public.

There are two kinds of secondary research that you can do for this type of capstone project:

* Create and answer a **thesis question**, or
* Write a **review of the literature**

The main focus of a project with a **thesis question** is to present scholarly literature to explore and support your argument. The focus of a **literature review** is to summarize and synthesize the arguments and ideas of others. The thesis question research paper should have a wide range of scholarly articles to support the argument. A literature review should also have a question to be answered or some form of an argument; however, the question/argument is not as important as thoroughly covering available scholarly sources on the topic in question. In simple terms, a thesis question project (and the accompanying paper) and a literature review project (and the accompanying paper) contain many of the same elements and are pretty similar on the surface. The difference between the two is whether the emphasis is on the question/argument (i.e., a thesis question project) or the thorough study of the scholarly literature.

***Consider the following:***

* The purpose of your capstone project is to demonstrate what you have learned in your three disciplines and to integrate that knowledge into a single project--in this case, answering a thesis question that incorporates perspectives from the three disciplines you have studied.
* Your capstone committee must approve your final thesis question and project completion plan before starting the project.
* Consider what kinds of research articles you need to find to understand the issue you are addressing, and make sure that you include research from all of your areas of concentration equally. A good rule of thumb is to have a minimum of 7-9 excellent, fully applicable articles from each discipline. This is a minimum, not a maximum.
* Ensure that you analyze and integrate your coursework knowledge and read relevant scholarly literature.  Here are some questions to guide your thinking:
	+ In comparing the results of the articles you read, how were the conclusions related to one another? How did all of the conclusions (when added together) clarify your thinking about your thesis question(s)?
	+ How did the articles relate to one another overall? Why did you choose this particular group of articles for your project?
	+ What are the similarities and differences related to research results in each article?
	+ Why is it important to integrate your disciplines to answer your particular thesis question?

Please note that the review and integration of **existing** literature do not require approval from the IRB. See: <https://www.weber.edu/IRB/>

* Think about what your final product will include.  What headings will you include in your paper, and how will you organize it? Typically, this type of paper requires 25-30 pages of text to explore, explain, and integrate the topic. Will you also include a copy of a resource guide, lesson plan, or educational presentation?

## Creating Thesis Questions for Secondary Research Capstone Projects

Creating an excellent thesis question for your secondary research project will provide a guiding structure from beginning to successful completion. It is vitally important that you carefully choose a topic that is narrow enough that you can identify and explore **one** specific phenomenon and reach meaningful conclusions about it. Creating a workable thesis question may seem simple on the surface; however, it will require many revisions and iterations until you finally decide precisely what you are trying to accomplish with this endeavor. The hypothetical thesis questions provided below are meant to stimulate thinking related to what **you** might be able to create for your secondary research paper:

* “Human growth trends in the United States over the last 60 years: A study of the relationship of nutritional patterns and human growth from birth to 21 years. What can we learn from these patterns?”
* “How have portrayals of the American revolution in high-school textbooks changed over the 20th century?”
* “Do alcoholics who regularly attend 12-step programs have a lower incidence of relapse than those who practice abstinence alone?”
* “10 years later: How do urban community garden projects affect local economies?”
* Racial inequality in the US: what are the historical origins? What are the causes of its political, economic, and social persistence?

## The Process of Completing a Literature Review Capstone Project

***Consider the following:***

* The purpose of your capstone project is to demonstrate what you have learned in your three disciplines and to integrate that knowledge into a single project (in this case, a focused and in-depth exploration of a topic that incorporates aspects from your three disciplines). To reiterate, **the difference between a literature review and a secondary research paper is subtle but essential**: “A literature review discusses published information in a particular subject area, and sometimes information in a particular subject area within a certain period…. it usually has an organizational pattern and combines both *summary* and *synthesis*. A summary is a recap of the important information of the source, and a synthesis is a re-organization, or a reshuffling, of that information. [For a literature review, you need to do both summary and synthesis]. It might give a new interpretation of old material or combine new with old interpretations. Or it might trace the intellectual progression of the field, including major debates. And depending on the situation, the literature review may evaluate the sources and advise the reader on the most pertinent or relevant” (The Writing Center at the University of North Carolina at Chapel Hill, 2009).
* Your capstone committee must approve your literature review topic and project plan.
* Consider what kinds of research articles you need to find to understand the issue you are addressing, and make sure that you include research from all of your concentration areas equally. A good rule of thumb is to have a minimum of 7-9 excellent, fully applicable articles from each discipline.
* Make sure that you analyze and integrate the knowledge you gained from your thorough study of academic literature.  Here are some questions to guide your thinking:
	+ In comparing the results of the articles you read, how were the conclusions related to another? How did all of the conclusions (when added together) clarify your thinking related to your thesis question(s)?
	+ How did the articles relate to one another overall? Why did you choose this particular group of articles for your project?
	+ What are the similarities and differences related to research results in each article?
	+ Why is it important to integrate your disciplines to answer your particular thesis question?
* Please note that review and integration of **existing** literature do not require approval from the IRB.
* Think about what your final product will look like.  What headings will you include in your paper, and how will you organize it? Typically, this type of paper requires 25-30 pages of text to entirely explore, explain, and integrate the topic. Will you also include a copy of a resource guide, lesson plan, or educational presentation?

## Creating Questions for a Literature Review Capstone Project

Creating a focused question for your literature review at the outset will guide your project through beginning to successful completion. It is crucial to choose a topic that is narrow enough that you can identify and explore **one** specific phenomenon. The hypothetical questions provided below are meant to stimulate thinking related to what **you** might be able to create for your literature review paper:

* “What is currently considered a state-of-the-art treatment for dementia at the current time? What future and/or alternative treatments hold promise for the future?”
* “Marriage and divorce in the United States: Trends and social commentary over the last ten years. Is the traditional nuclear family unit suffering or alive and well?”
* “Air pollution trends in California and Utah: What can Utah learn?”
* “The Lean Manufacturing revolution: Increasing productivity for the future of manufacturing in the United States”
* How do historians, political scientists, and economists assess New Deal economics?

For more information on a secondary research project, go to: <https://www.weber.edu/BIS/project-faq.html> > What are the various types of Capstone projects

**Chapter 5**

**Capstone Project Option: Creative Project**

**The Process of Completing a Creative Capstone Project:**

You can choose to do a creative capstone project that brings something new into the world. For example, you may:

* Design a website or app
* Create a podcast
* Write a children’s book
* Create an animated short film
* Produce an educational pamphlet
* Write and perform a musical composition.
* Mount an exhibition of your artwork.

If you choose this option:

* Be sure your topic involves all three areas of concentration.
* Produce your creative capstone. In other words, put the website out on the Internet; give a concert showcasing your musical composition; perform your original dance.
* Ensure that your capstone committee attends or sees your creative project when you produce it.
* Produce a copy of your work for the library: for example, a CD, video, or tape.
* Write a short supporting paper (10-15 double-spaced pages) that explains *what* you are doing, *why* you are doing it, and *what research* (short review of relevant literature) you did to bring it into being, at least 2-3 scholarly references per area of concentration. Your paper should show how you have integrated the knowledge and skills you have learned in your three areas of concentration and should be formatted appropriately to your disciplines, including a complete bibliography citing your sources. (**Remember to use the format appropriate for your disciplines. Consult with your committee members about their preferred citation styles.)**

***Consider the following:***

* You must have a specific goal or purpose.  It is not enough to simply create something interesting. What will your project contribute to the world?
* The purpose of your capstone project is to demonstrate what you have learned in your three disciplines and to synthesize that knowledge in a single creative expression of learning.
* Your capstone committee must approve your creative project.
* Consider what research you need to do to understand the significance of the project you are creating through your hands-on work.  The creative project should combine academic and practical work, so make sure you ground it in research.
* If your project involves human subjects, you will have to complete the IRB paperwork for legal coverage.  This process takes time, so start early.  For more information, look at: <http://weber.edu/irb>

Think about what your final product will look like. What will you include in your capstone portfolio, and how will you organize it? For creative projects, there is typically a portfolio with photographic, CD, and/or DVD records of the creative work, journaling records, time records, and a supporting ***research paper*** (10-15 pages) that integrates knowledge from your three areas of concentration.  The purpose of your paper is to show how you have used the academic/scholarly theory you have learned in your three areas of concentration in this creative project. Your paper will be formatted appropriately to your disciplines, including a correctly cited bibliography of your sources. (APA, MLA, or Chicago style sheet, depending on your disciplines).

Students interested in completing a creative project will often mix and match aspects of other types of capstone project types together into a unique expression that meets personal, professional, and academic goals. The creative project option is an excellent opportunity to envision and create something unexpected and unique. The BIS director and your committee members will help you create a scholarly and fulfilling project plan that effectively integrates your areas of study.

For more information about a creative project, go to: <https://www.weber.edu/BIS/project-faq.html> > What are the various types of Capstone projects

**Chapter 6**

**Capstone Project Option: Community Engaged Learning**

Community Engaged Learning, as one scholar has defined it,“involves working to make a difference in the civic life of our communities through both political and non-political processes while developing the combination of civic knowledge, civic skills, civic values, and civic action to make that difference” (*Civic Responsibility and Higher Education*, edited by Thomas Ehrlich, published by Oryx Press, Preface, page vi.).

Weber State’s Center for Community Engaged Learning (CCEL) facilitates three forms of community-engaged learning: direct service, civic engagement, and community research.

***Direct service*** experiences often involve working directly with community residents to meet an immediate need. Examples of direct service include, but are not limited to: volunteering to serve meals at a homeless shelter, using academic knowledge to develop an electronic food-monitoring database for a food pantry, serving as a mentor or tutor in a local school or youth development program, cleaning up the banks of the Ogden River, or coaching a city youth sport.

***Civic Engagement*** experiences often involve raising awareness about issues of public concern and working more systematically through both political and non-political processes to create change. Examples of civic engagement include, but are not limited to: attending organized discussions about pollution; community organizing; writing a letter to an elected official; engaging others in the process of deliberative democracy; or producing information about community issues.

***Community research*** experiences often involve gathering information with and for community organizations to solve a pressing community problem or create change. Examples of community research include, but are not limited to: community needs assessment survey; water quality or scientific assessment; or program evaluation for non-profit organizations.

Most community-engaged learning experiences involve all three forms of CEL listed above. One pathway may be more central to a project or experience than others, but most community-engaged learning involves direct service, civic engagement, and/or community research to varying degrees.

**Understanding Community Engaged Learning**

Completing a successful Community Engaged Learning Capstone Project requires understanding community-engaged learning and the three forms of CEL facilitated at WSU: service, democratic engagement, and community research. CCEL assists BIS students who complete Community Engaged Learning Capstone Projects.

**The Process of Completing a Community Engaged Learning Capstone Project**

This capstone option blends academic study and community-engaged learning.  Through community-engaged learning, you connect classroom instruction and real-life situations in a reflective way. Please review Weber’s Center for Community-Engaged Learning at <https://weber.edu/ccel>

***Consider the following:***

* You must have a specific goal or purpose.  It is not enough to spend time volunteering for an agency.  What will your project contribute to the agency that they are not already doing?
* You may choose to work with any non-profit agency or educational institution, but your project cannot be affiliated with a church.
* The purpose of your capstone project is to demonstrate what you have learned in your three disciplines and to synthesize that knowledge in a single project.
* Your capstone committee must approve your community-engaged learning project.
* Consider what research you need to do to understand the issue you are addressing through your hands-on work.  The community-engaged learning project should combine academic and practical work, so make sure you ground it in research.
* Make sure you analyze and integrate the knowledge you gained from your experience.  Here are some questions to guide your thinking:
	+ What worked? What did not? What would you do differently?
	+ What skills and knowledge helped you? What else did you need to know to complete this project?
	+ Who benefited from your work and how?
	+ What were the limits you encountered that hampered your efforts?
	+ What larger social forces might need to be addressed?
* If your project involves human subjects, you will have to complete the IRB paperwork for legal coverage.  This process takes time, so start early.  For more information, look at: <https://weber.edu/irb>
* Think about what your final product will look like.  What will you include in your capstone portfolio, and how will you organize it?

**The Process:**

1. If you do a community-engaged learning project, you will be expected to complete the following paperwork **before** you start your volunteer work:
* Complete the ***BIS* *Community Engaged Learning Contract,*** providedat the end of this chapter as a way to:
	+ articulate a focused goal and plan for your community-engaged learning project
	+ make the expectations on both sides explicit
	+ provide you and the agency with legal coverage
* Complete the ***Disclaimer Form for Community Engaged Learning Project***
	+ This form must be signed by you and the person who will be supervising and guiding your service-learning on-site,
* Complete and sign these two forms ***before*** you start your project.  Give one copy to the BIS office, another to the agency, and make a copy for your records.
* Complete Weber State CCEL’s training modules for students (<https://weber.edu/ccel/training.html>) and print the certificate of completion at the end.
	+ During the Covid-19 pandemic, you must also read the information and sign the documents provided here: <https://weber.edu/ccel/Community_Engagement_During_COVID-19.html>
1. **During**the time that you work in the agency, you will also:
* Complete the online electronic ***Community Engaged Learning Time Record***, documenting your hours and activities with the agency.
* Write one ***journal page for every session you spend doing volunteer work***, describing what you did and how you responded to these experiences.  Please see the ***Community Engaged Learning Journaling Ideas*** included in this packet for ways to go about writing this journal.
* Write a short (10-15 pages) ***research paper*** combining your three areas of concentration.  The purpose of your paper is to show your scholarly understanding and ability to apply knowledge from your three areas of concentration in this practical situation.  Your paper will be formatted appropriately to your disciplines, including a correctly cited bibliography of your sources. (APA, MLA, or Chicago style sheet, depending on your disciplines).
1. ***At the end*** of your time with the agency, you will:
* Complete the ***Personal and Professional Growth Assessment*** with your supervisor at the agency as a way to evaluate your performance.
1. ***For your capstone***, submit ***all*** the completed forms named above as an appendix to your final written capstone project.

## Creating Thesis Questions or Focused Explorations for Community Engaged Learning Capstone Projects

Creating an excellent community-engaged learning project requires reflection about what types of community-engaged learning activities resonate with your personal goals and values. Think about what kinds of agencies or groups of people might be able to use your unique skills to enhance or improve their circumstances. Be creative! Here are examples of the types of activities that are possible. An agency, community group, or group of individuals might need your help to…

* + Research food insecurity in Ogden and work with staff to decrease the number of “food deserts” in the city.
	+ Update or create an app or Web page that showcases services and activities
		- “What information should be included on a new Web page for this agency to reach low-income adults? Why should this specific information be included?”
	+ Build low-cost housing
		- Possible thesis/focused exploration question: “How does the purchase of a Habitat for Humanity home change the financial outlook of the families who buy the homes?” **Or**
		- “How will rehabilitating homes in a low-income neighborhood affect the surrounding community? Will it cause rents to rise and make housing more expensive? Is there a way to preserve and improve housing for low-income families?
	+ Tutor Junior High School kids in math and science
		- Possible thesis/focused exploration question: “What three tutoring activities are most effective for helping Junior High School Aged kids learn elementary algebra (or physics, or chemistry, etc.)?” **Or**
		- **“**What are the effects of tutoring at-risk Junior High School aged kids in math and science for three months?”
	+ Teach a computer skills class to adults in the community
		- Possible thesis/focused exploration question: “What is the best pedagogical method for teaching computer skills to seniors?”
		- According to adults in a community Basic Computer Skills class, what basic computer skill is the most challenging to learn? What resources are available to facilitate teaching/learning this skill, and how can they be acquired and utilized by this program?”
	+ Teach kids in an after-school program about the benefits of exercise and healthy eating
		- Possible thesis/focused exploration question: “According to a group of kids in one Ogden City after-school program, what top 5 factors influence the amount of vigorous physical activity they engage in each day?” **Or**
		- “Kids and healthy eating: Results of a pre and post-test to determine if an educational program on healthy eating influenced attitudes about healthy versus unhealthy food choices.”

**BIS Community-Engaged Journaling Ideas**

Here is some guidance for your journal writing.  Remember, you are expected to make an entry for every session you spend on-site, doing volunteer work. These are things you could include:

* Write an account of the daily events that occur. (This descriptive component of your journal should be kept to a minimum.)
* Next, describe your feelings and perceptions, questions, and ideas about what happened during your work.
* What research would help you do this project better?  Make a list of topics or questions you want to know more about.

You might reflect on any of the following:

* What larger social and community trends are you becoming aware of? What social needs are you discovering?
* Are you clear about your site's goals, and do you agree that these goals are worthy?
* Are you clear about your own goals with this project, and do they seem to be working out?
* If you were in charge of the site, would you change anything?
* What are you learning about your three areas of concentration by doing this service-learning project?

Below you will find a guide to help students articulate what they have learned from their community-engaged learning experiences. Weber State University has identified four specific areas as important learning outcomes for students who engage in the community. These outcomes include: civic knowledge, civic values, civic skills, civic values, and civic action. The reflection can be used to help you reflect on what you have learned from your community engagement in any one of these areas. Visit <https://weber.edu/ccel/cel-outcomes.html> to learn more about CEL outcomes.

If you have questions about your CEL project, you can contact WSU’s Center for Community Engaged Learning at ccel@weber.edu

For more information about what your Capstone Project Report will look like, go to:

<https://www.weber.edu/BIS/project-faq.html>

**Chapter 7**

**Writing Your Proposal**

**Proposal Overview**

A proposal is an academic project plan. It should be at least three pages but can be longer. The ultimate purpose is to have a succinct document to present to prospective committee members. Of course, the details of your project are subject to change, but this proposed work plan will keep you on track. Your Proposal will explain to them:

* What you intend to do—that is, what you are trying to prove, to discover, to explain
* Why do you intend to do it
* A clear discussion related to how your areas of concentration will be incorporated and integrated into the project
* Your step-by-step plan for how you intend to complete it
* What the final product will be, i.e., a list of precisely what you plan to turn in at the end
* The resources you have found so far. Proposals should include at least three references, one per area of concentration, to show your committee the research your project is based on.

This document should be written after identifying your committee members—one from each of your areas of concentration. During 3800, you should consult with them as you write the proposal. After completing a written proposal acceptable to all three of your committee members, submit it to your instructor in BIS 3800 by the end of the semester. See deadlines for this on the syllabus. Please, note that when a faculty member agrees to serve on your capstone committee, you two must complete the **BIS Capstone Contract** (there is a copy of this contract at the end of this chapter). The completed contract must be turned in to the BIS office to be kept in your academic records. The contract has precise guidelines, and you must know what they are and explain them in detail to your faculty committee members. You will complete one of these contracts for each of your three Capstone committee members.

After you have formed a complete committee consisting of one faculty member from each of your areas of study, you will schedule a proposal meeting. *This meeting should be scheduled and completed before you begin work on your project. Ideally, you should schedule it while taking BIS 3800. If faculty is unavailable, schedule it shortly after taking BIS 3800.* The proposal meeting allows your three faculty members to collaborate and agree upon expectations for your project. It is an opportunity for clarification, feedback, revision, and planning. **It is essential that you and your committee members agree upon expectations related to time frame, communication preferences, draft revisions, and who (if anyone) would like to assume the lead advisor role on your committee**. The *BIS Capstone Proposal Meeting* Contract will be completed at this meeting (a copy of this contract at the end of this chapter). This contract indicates that you and all three committee members have collaboratively agreed upon what you will be doing for your capstone project. This completed contract must be turned in to the BIS office, where it will be kept in your student file.

## Headings and Content that must be Included in Your Proposal

* Start with what your thesis question is.
* What you intend to do
	+ Begin with a paragraph that explains **what** topic you will be doing. This paragraph should also include some background information that led you to this topic.
* Why do you intend to do it
	+ Explain **why** this is an important topic for you to pursue. In this section, your committee will want to know what you are doing to add to your knowledge. Also, explain how your three areas of concentration will be integrated into this single project.
	+ A clear discussion related to exactly how your areas of concentration will be incorporated and integrated should be included in this section.
	+ Be sure to include a bullet point for each of your three areas that highlights how each area will be integrated into your project.
* Your step-by-step plan for how you intend to complete it
	+ Outline **how** you plan to achieve your capstone goal. ***This will be your longest section, as you will outline your timeline, procedure, and possible sources, as well as list questions you would like to answer. I expect a lot in this area and will ask you to revise your paper or take off significant points for not having a clear plan.***
* What the final product will be, i.e., a list of precisely what you plan to turn in at the end
	+ Explain clearly what the **final product** will be by creating a bulleted list of precisely what you plan to turn in.
		- It could be a 25 to a 30-page research paper with at least 15 scholarly references –five references for each of your three areas of concentration;
		- or perhaps a website with a 10-page support paper with at least seven scholarly references;
		- or a volunteer service portfolio with sections that might include photos, a DVD or USB, a support paper, handouts, graphs and charts, art pieces, etc.
		- Be specific so that your committee members will precisely know what they will have in their hands when you are finished.
		- ALL projects will require a scholarly paper that discusses pertinent academic research relevant to your project. If you complete a primary research project or secondary research project, the paper will be about 25-30 pages long. If you complete any other type of project, your paper will be about 10-15 pages long.
		- **Please conclude your proposal with at least three references for each of the areas of concentration of your project**.

## Obtaining Help with Grammar, Punctuation, Formatting, and Editing

(This information is also reprinted in Chapter 9 since the Writing Center will help you with the proposal and the Capstone Project itself.)

The Weber State University Writing Center will help you with grammar, punctuation, formatting, and editing. You can learn more about the WSU Writing Center by going to the Writing Center Website or reading them online: <https://www.weber.edu/WritingCenter>

**What is the Writing Center?**
The Writing Center is a place where students receive assistance to become writers.

**Who are the Tutors?**
Tutors working in the Writing Center are students and who have been trained to help students with all aspects of writing. The tutors are a diverse group representing various majors. Tutors are also familiar with many different styles and types of writing so that they can help students with papers from any department.

**Do the Tutors only help with English papers?**
Tutors at the Writing Center help students write English papers, scientific research papers, abstracts, personal poems, narratives, resumes, and more.

**How can the Writing Center help me?**
A tutor will help with composition, grammar, and structure. The tutor works closely with you through the steps of writing. However, the tutors are not editors or proofreaders –they will not proofread your paper or act as a thesaurus and dictionary to provide different words. Be prepared with questions and specific areas that you want to work on within the paper, areas that you feel are not as good as they should be.

A tip: if you are looking for someone to write your paper for you or who will allow plagiarism, this is not the place.

**What kinds of resources does the Writing Center have available for students to use?**At the Writing Center, we have a variety of reference books –dictionaries, thesauruses, grammar handbooks- available, as well as knowledgeable, friendly tutors, for you to consult. Our bulletin board has information about our workshops, other campus tutoring, and upcoming writing conferences and contests.

**What Does it Cost?**Nothing. It is part of your student services--take advantage of it.
**Do I need to make an appointment?**You can just drop in (in person or online). However, during exceptional (e.g., a pandemic) or busy times (e.g., final exams approaching), it is strongly recommended to schedule an appointment as many days in advance as possible. We just like to encourage you to plan ahead and get the most help when you need it.

**Can I just drop off my paper to have you fix the grammar and then come back later?**We work face to face and through online submissions. Our goal is not to be just a proofreading or editing service but to help you become a better writer and have a better paper.

 **How do I get more information?**
Tutors routinely give in-class demonstrations of the Center’s activities and resources. Ask your professor, or drop in and see us, and we can give you more information. Here is the form you will use when meeting with your committee members to review your capstone. A copy of it is available on the BIS website: <https://weber.edu/BIS/resources.html> (Click on “Proposal Meeting Signature Form” and “Faculty Capstone Committee Agreement Form”)

**BIS CAPSTONE PROPOSAL MEETING**

**Student’s name:**

**SS# or Student ID:**

**Address:**

**Phone number: E-mail:**

**Capstone title or brief description:**

**Date of Meeting:**

**Capstone Committee Members present:**

Print name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sign name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Print name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sign name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Print name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sign name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Comments on the proposal:**

After the proposal meeting, the student will return this completed form to the BIS Director.

BIS Contract

Instructions: The BIS student and the capstone committee faculty mentor will work through and sign this form as an agreement on expectations and responsibilities for the BIS capstone thesis.

Faculty name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Department\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phone Number:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ E-mail address:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Faculty:

I understand that the capstone will entail sufficient work to warrant three credits at the 4000 level and that it will demonstrate research methods and a bibliographic style sheet appropriate to the discipline.

I agree to:

* Attend a proposal meeting that the student will arrange to approve the project and offer feedback and guidance.
* Read the student's drafts (minimum of three drafts) in a timely way and then provide mentoring and feedback related to necessary revisions and improvements. The student is responsible for submitting drafts (minimum of three draft rounds) to the faculty member.
* Attend the student's oral defense at the end of the process to approve the finished project and give the student a final grade.
* Be sure to read the information packet that will be sent from the BIS office after the proposal meeting is completed

Student name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Department\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Phone number**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **E-mail address**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Student:**

I understand that the capstone will entail sufficient work to warrant three credits at the 4000 level and that it will demonstrate research methods and a bibliographic style sheet appropriate to the discipline.

**I agree to:**

* **Call two meetings** (proposal and oral defense) for my faculty committee. I understand that I will take the initiative to contact faculty members to arrange these two meetings, set up the meetings in a timely way, and ensure that all of my committee members can attend in person or via conference call.
* **Give my committee a minimum of three drafts of my project for review and feedback during a reasonable time frame,** so they have time to read them and provide feedback that will help me improve my work.
* **Ensure that my committee members have the final “no further revisions needed” draft at least two weeks before my defense.**

**Signed: (Faculty)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Signed: (Student)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\*To the student: Please, ensure that the BIS office is given the original and that the faculty member and student have copies for their records.**

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*Here are examples of student proposals:*

Mackenzie Moon

BIS Capstone Proposal

**Thesis Question**: Do zebrafish treated with valproic acid display autistic behaviors analogous to humans with autism spectrum disorder? How do the behaviors of the test group differ from those of the untreated control group?

**What I intend to do:** I intend to mate wildtype zebrafish and expose the experimental group to Valproic acid between 0- and 48-hours post-fertilization. Starting at six days post-fertilization, I will begin a series of behavior tests with both groups to determine the appearance of autism-like behaviors and measure the difference in behaviors between the treated and untreated fish. My capstone project will be a combination of a 10-to-15-page primary research paper and a PowerPoint presentation detailing the research I am conducting. The paper will also review the literature used to prepare for this research. The project will bring together knowledge from my areas of concentration: Neuroscience, psychology, and health sciences.

**Why I intend to do it:** As a mother of three autistic children, I have gained a unique perspective of autistic behaviors. I wish to further my understanding of the physiological and behavioral aspects of autism spectrum disorder through research. This research will also give me valuable experience preparing for a doctoral program. On a larger scale, a deeper understanding of ASD could allow researchers to develop more effective treatments for the symptoms of autism.

**My step-by-step plan:** I am fortunate to have begun this research in January 2020. Much of my step-by-step plan was accomplished when this paper is being written. I will outline the process I have completed and the steps to be completed.

Step 1: Familiarize me with the zebrafish model of autism through a review of peer-reviewed literature. I began this process with directed readings with Dr. Jim Hutchins during the 2020 spring semester. This process continued into the 2020 summer semester with directed readings and journal club with Dr. Hutchins and Dr. Sandquist. As a group, we reviewed articles on zebrafish research, genetic variations in zebrafish, and genes that contribute to autism spectrum disorder. Further research is needed into the neuroanatomy and neurological processes in humans.

Step 2: Further familiarize me with autism spectrum disorder and behavioral treatments. Expand my research of autism spectrum disorder by finding 3 to 5 peer-reviewed articles for each area of concentration.

Step 3: Complete lab training and certifications needed to participate in lab activities such as animal husbandry. I completed my training and have been working in Dr. Sandquist’s zebrafish lab since fall 2020.

Step 4: Write and submit an OUR grant proposal to obtain funding for my research project. My grant proposal was submitted in October 2020 and received full funding.

Step 5: Complete the planned timeline for behavioral tests.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test** | **ASD trait** | **When** | **Author** |
| Open-Field  | Thigmotaxis/Anxiety | 6-dpf, 30-dpf, 60-dpf | Zimmerman |
| Inattentive Behavior | Cognitive flexibility, habituation | 7-dpf, 21-dpf | Dwivedi |
| Circling | Repetitive behaviors | 7-dpf, 21-dpf | Dwivedi |
| Social Preference test | Social deficits | 70-dpf | Zimmerman |
| Mirror-Response | Social deficits, aggression | 75-dpf to allow fish to recover from 70-dpf testing | Zimmerman |

\*Note: Circling and inattentive behavior tests will be performed on the most recent yield of embryos at 7- and 21-dpf and analyzed by hand. I will require assistance with the agarose to create the lanes for the inattentive behavior test.

Step 6: Mate wildtype zebrafish to collect embryos for tests. We successfully mated the fish and collected embryos for testing at the beginning of March. Embryos were collected immediately after fertilization and separated into control and experimental groups. Experimental fish were placed in a container of 30 mL of embryo medium treated with 50 μM of valproic acid (VPA) for the first 48-hour post-fertilization. Control fish were maintained in 30 mL of untreated embryo medium.

Step 7: Conduct tests at 6, 30, 60, 70 days post-fertilization.

Step 8: Analyze tests using ANYmaze behavior tracking software.

Step 9: Write up results and their meaning.

Step 10: Incorporate results into the final paper and presentation.

Step 11: Present research in person to the committee, students, and faculty from related departments at a scheduled lecture.

**Final Product:** The final product will be a 10-to-15-page research paper and PowerPoint presentation containing details of my research project, an overview of autism spectrum disorder, and a literature review.

**REFERENCES**

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Zimmermann, F. F., Gaspary, K. V., Leite, C. E., De Paula Cognato, G., & Bonan, C. D. (2015). Embryological exposure to valproic acid induces social interaction deficits in zebrafish ( danio rerio ): A developmental behavior analysis. Neurotoxicology and Teratology, 52(Pt A), 36-41. https://doi.org/10.1016/j.ntt.2015.10.00

SAMPLE II.

Name

BIS 3800

PROPOSAL

**Thesis Question:** Will the presentation and pamphlets I create help educate my colleagues about the WIC Program and serve as an outreach tool for more referrals from my colleagues and the health community?

**What I intend to do:**

My capstone project will be a creative project wherein I will create a presentation and a pamphlet regarding the WIC Program. This presentation will give information on who qualifies for WIC, the process for qualification, what WIC provides for the client in terms of food vouchers and nutrition education, and why WIC is a successful program.  The pamphlet will be a brief overview of the information provided in the presentation so staff will have a resource at their fingertips to refer to once they are back in their respective offices. I intend to present this to my colleagues at the Health Department and use it as an outreach resource for colleagues and health professionals in my community.

**Why I intend to do it:**

I am doing this project because I am the director of a WIC Program and work with colleagues that the health department has employed for more than 10+ years, and they do not know what services WIC provides to the client.  I want to educate my colleagues to become good referral sources for our program and educate them about the program.  I also need to provide yearly community education and outreach for WIC in our geographical area, so this presentation and the accompanying pamphlet will help me accomplish that.  I am passionate about the WIC Program and feel that it is a program that is not readily understood—both by new employees to the Health Department and ones that have worked there for years. I think it is considered a program where low-income families can go to get formula for their babies. While that is a part of the program, that is a tiny portion of it. I would like to expand the knowledge base of my colleagues and the health community in my geographical area, so they understand that WIC is a nutrition education and supplemental food program that saves money in the long run because it teaches families about good nutrition and how to incorporate healthy lifestyles. By doing this project, I hope it will ultimately provide referrals to our WIC program as my colleagues will be better informed and will be able to educate their clients on what services we can provide to them and their families. My three areas of concentration are nutrition, health promotion, and health administration. My capstone project will incorporate these areas as explained below:

* Nutrition will be incorporated by explaining the types of nutrition education WIC provides to clients and families.
* Health Promotion will be incorporated through the teaching process I will be doing to educate my colleagues about the WIC Program. In this sense, I am serving as a health education specialist by developing a presentation that will ultimately bring more clients into the WIC Program, improving their health and their families.
* Health Administration will be incorporated through the management of this presentation. To develop and present this project, I will use the management functions I have learned —planning, organizing, leading, and controlling.

**My step-by-step plan:**

 I plan on having my capstone project completed by the end of Fall semester 2013. In August, I will begin working on the PowerPoint presentation and script. I will work with the registered dietitian at our WIC Program who has been employed with WIC for 20+ years and utilize her program knowledge. I will have the PowerPoint and accompanying script completed by the middle of September and will send it to my committee for review. I will design the reference pamphlet during the last two weeks of September. This will be an at-a-glance overview of the WIC Program and will be in color and easy to read.

I will submit the pamphlet to my committee for review in the first week of October. I plan to present my project to my colleagues at a staff meeting in October. The staff consists of nurses, clinical assistants, WIC nutritionists, Early Intervention personnel (occupational, speech, and physical therapists), nurse practitioner, health promotion staff, and environmental specialists. I will have them fill out a pre-and post-survey to assess their knowledge of the program and evaluate if their knowledge increased after my presentation.

I will use the Stewart Library to write my 10-15 page support paper using appropriate resources. I hope to submit my final draft before the Thanksgiving holiday. I would like to call an oral defense meeting the first week of December.

**Final Product:**

The final product will consist of a PowerPoint presentation with accompanying script, pamphlet designed for use as a desk resource, pre-and post-survey results, and 10-15 page support paper with seven scholarly references.

REFERENCES

**Nutrition:**

Whaley, S. E., Ritchie, L. D., Spector, P., & Gomez, J. (2012). Revised WIC Food Package Improves Diets of WIC Families. *Journal of Nutrition Education & Behavior*, *44*(3), 204-209. (This article presents data exploring the consumption of lower-fat milk, fruits and vegetables, and whole-grain foods by WIC families to see if this increased with the implementation of these foods in the WIC food package. This article showed that the federal policy changes had a positive impact by improving the diets of low-income women and children).

**Health Promotion:**

Deehy, K., Hoger, F. S., Kallio, J., Klumpyan, K., Samoa, S., Sell, K., & Yee, L. (2010). Participant-centered Education: Building a New WIC Nutrition Education Model. *Journal Of Nutrition Education & Behavior*, *42*(3S), S39-S46.

(This article presents health education professionals information on using participant-centered nutrition education to promote positive behavior change. Participant-centered education places the participant at the center of the nutrition education process. It focuses on participants' capabilities, strengths, and needs, rather than solely on problems, risks, and negative behaviors).

**Health Administration:**

Boe, D., Riley, W., & Parsons, H. (2009). Improving Service Delivery in a County Health Department WIC Clinic: An Application of Statistical Process Control Techniques. *American Journal Of Public Health*, *99*(9), 1619-1625.

(This article discusses management techniques that could be used at a WIC clinic to improve customer satisfaction and decrease wait times. The techniques are seldom used in public health settings, but the article shows they can significantly help underfunded, understaffed, and overwhelmed public health departments).

**Chapter 8**

**Putting the Proposal into Action: Success Strategies**

**Summary of the Capstone Project Process**

1. While you are in BIS 3800, you will:
	* + Determine who will serve on your Capstone Committee by beginning a dialogue with one faculty member from each of your three areas of concentration to sit on your committee.
		+ Write a proposal explaining the “what,” “why,” and “how” of your project.
		+ Write a professional resume.
2. *Call your Proposal meeting (it is strongly recommended to be done at the end of the semester you take 3800 but can be postponed if needed):*
	* Project a time and date at least two weeks ahead and be prepared to negotiate times and dates to accommodate all three faculty members. All three members of your committee must be present at the meeting, either in person or by conference call (the BIS department can provide that capability if you need it). It is your responsibility to ensure a time and date they can attend. The BIS director is **NOT** required to attend this meeting.
	* Use [www.doodle.com](http://www.doodle.com) as a tool to schedule this meeting and later your Oral Defense. It is easy to use, but you are still responsible for communicating which time and date is optimal for everyone. It is simple to create and leads you through the necessary steps.
	* Call (801) 626-7713 if you would like the BIS office to schedule a room, or there are always study rooms in the library where you can meet.
	* Send your committee a copy of your proposal BEFORE the meeting, so they have time to read it.
	* Make your proposal meeting useful: ask questions and seek guidance. They agreed to mentor you, and this is your chance for advice and for them to catch the vision of your project.
	* *Remember to use the citation style most appropriate to your disciplines. To find out the preferred citation format, consult with your committee.*
	* Ask your committee to sign the Proposal Meeting form to show they attended the meeting. **Return the signed form to the BIS Office.**
	* If your project involves research with human subjects, you will need to complete the IRB procedures and documentation available at <https://weber.edu/irb>
	* You will also need to complete some training and have your chair be your principal investigator to sign off some forms and the BIS Director.
	* After the meeting, email your committee a discussion summary so everyone has a written agreement on the expectations of the project.
3. During the semester that you plan to complete and defend your capstone, register for BIS 4800: The BIS office will give you the permission slip to register for it. **You register for BIS 4800 once, even if you take two or more semesters to complete your capstone project.** You will earn three upper-division credits for your capstone when you finish. If you do not complete and defend your capstone project the semester you enroll in BIS 4800, you will receive an “I” grade at the end of the semester, which will be changed to a letter grade if you complete your project within nine months. After the “I” has expired, the grade will automatically become an “E.”
4. *Work on your capstone project:*
	* Send your committee drafts regularly, **at least three times**, so they have the time and opportunity to give you feedback.
	* Make sure each member of your committee has at least two weeks to read the final draft of your thesis before holding the defense.
	* The defense is NOT the time for corrections to be discussed—this must be done before the meeting when your committee provides feedback on the FINAL draft. Any corrections suggested at that time must be incorporated before the final defense so that your project is **complete** when the meeting occurs.
5. *Call a Defense meeting:*
	* Project a time and date at least two weeks ahead and be prepared to negotiate times and dates to accommodate all three faculty members. (Use [www.doodle.com](http://www.doodle.com) to help you in this process.) The BIS Director **MUST BE PRESENT** at your capstone. Be sure to contact the BIS administrative assistant (the director does NOT schedule defenses) to find out when the director is available so that you can plan your meeting accordingly with the other committee members. **EVERY MEMBER OF YOUR COMMITTEE MUST BE PRESENT AT YOUR DEFENSE**, either in person or by conference call, and it is your responsibility to ensure a time and date that they can attend. If, however, unforeseen circumstances occur, the BIS Director may conduct the defense with two of the three committee members present.
	* Ask your committee members for **letters of recommendation** close to your Oral Defense (before or after) **to complete your Career Portfolio**.
	* After the defense, submit the signed Oral Defense Form (a copy of this form is provided at the end of this chapter) and a clean, bound copy of your completed capstone thesis to the BIS office.
	* Write a thank-you note to each committee member; they have given you their time and expertise.
6. *Apply for graduation:* **In the first 6-8 weeks of your last semester**. Follow your CatTracks closely to ensure you have completed all requirements for your degree. Graduate and celebrate!

## Oral Defense Checklist

Here is a checklist to follow when preparing to have your oral defense. If you follow this checklist carefully, it will minimize setbacks.

**Oral Defense Check List**

***One month before the oral defense:***

* Contact your committee to find a time when they are all available.
* Call (801) 626-7713 to book a meeting room.
* **At least** two weeks before the scheduled defense, give each member of your committee a hard copy of your finished product. No further revisions or feedback from committee members should be needed at this time--all of your committee members should have indicated that the finished product is **completely done**.

***One week before the oral defense:***

* E-mail or call each member of your committee to remind them of the time and day you are meeting.
* Plan a 10-minute presentation. Do not tell them what you did; they already know all about what you did by reading drafts throughout your project. You can briefly summarize what you did and mainly focus on what you learned from the capstone process, how you incorporated your three areas in your project, what you did well, what you would do differently in retrospect, etc. Also, talk about what you plan to do after graduation.

***The day before your oral defense:***

* E-mail or call each member of your committee to remind them of the time and day you are meeting. (Yes, this will be the third time!)
* In preparation for your meeting, make sure to retype (with your information) and print out the following forms that you must bring to your defense (the forms are provided at the end of this chapter):
	+ *Library Cover Page*
	+ *Oral defense form*

***On the day of your oral defense:***

* Dress appropriately for a professional meeting.
* Bring the oral defense form with you so we can write down and sign off on your grade.

***After your oral defense:***

* Write thank-you notes to each member of your committee.
* When you have received the committee’s approval, make a final library copy for the BIS office with the cataloging form on the first page. Bring or send that library copy to the BIS office. We will post your grade when we receive your final copy.

## Eight Common Pitfalls and How to Avoid Them

 Here is a list of eight of the most common mistakes that students make when working on capstone projects:

1. Only two faculty members can come to your proposal meeting, so you go ahead without the third person.
	* *Apart from their approval, the main reason you all meet is so they can talk with each other and agree on your project. You create all sorts of problems for yourself later if you have not ensured they have this opportunity to talk to each other.*
2. You set up the proposal meeting and/or oral defense a month in advance and assume everyone will come.
	* *Assume no one will come unless you remind them by e-mail at least twice more: one week before the meeting and one day before.*
3. After giving them a draft, you do not hear anything from your committee, so you assume everything is OK.
	* *You can probably assume the faculty member has not read your work and that it is at the bottom of a stack of stuff they are trying to get through. If you get no response, set up a phone appointment or an appointment to go to his or her office hours. That way, the professor has a reason to read your work and a deadline to do it.*
4. You disappear for a long time, and faculty who pass me on campus say, “What happened to X?”
	* *You are being graded on your professional behavior and final academic performance, so act responsibly by keeping in touch with your committee. If there is a reason you need to take a break from your capstone, let them know. Treat them with respect.*
5. You assume the revision you give your committee is final from their point of view, and you schedule your oral defense without checking to see they are OK with that draft.
	* *Check with every committee member that the draft you consider your final one is passable from their point of view. Make sure they do not want more revisions. Do this before you schedule an oral defense.*
6. You turn up to your oral defense without a prepared oral presentation and just “wing” it.
	* *If you do this, it makes you look unprofessional and unprepared. This is a formal meeting, so dress appropriately and prepare comments or a presentation that’s worth your committee’s time.*
7. For your oral presentation, you tell your committee what you did.
	* *If they read your project drafts and provided feedback, they should already know what you did. Talk about what you learned, what you might have done differently, and what you will do after graduation.*
8. You come to the defense with copies of your final draft for everyone.
	* ***This is the biggest mistake you could make****. How can your faculty committee give you a grade if you have not allowed them to read and assess your work? They must have a paper copy in a nice binder at least a week before your oral defense. If you turn up at your oral defense with your final copies in hand, the BIS director* ***will cancel the defense****.*

**Capstone Faculty Guide Sheet and Capstone Grading Guide**

 Each faculty member on your capstone committee will receive this information, so you must be aware of this *BIS Capstone Faculty Guide Sheet and the Capstone Grading Guide.* Both are provided below*.*

**BIS Capstone Faculty Guide Sheet**

Thank you for considering working with a B.I.S. student. Your contribution will make a significant difference to the student's success. This guide sheet explains the part you will take in the BIS capstone process if you decide to become a member of the student's capstone committee:

**1. The student invites you to sit on his or her capstone committee as the representative of your discipline.** Two more faculty from the student's other areas of concentration will join you.

\* *The student should give you an initial idea of the capstone topic and project to decide if you want to become involved and help shape that project.*

*\* The capstone can take different forms, all of which are explained in "The Culminating Experience" packet. Please contact the BIS office if you would like a copy of this document or have questions: (801) 626-7713.*

**2.** **After you have agreed to sit on this capstone committee, the student will bring you a "Capstone Contract" to sign.** The purpose of this document is to clarify, in writing, the responsibilities both for you and for the student. You agree to:

\* *attend a* **proposal** *meeting with the other two faculty members of the committee;*

*\* read the student’s drafts in a timely way;*

*\* attend the student’s oral defense* *with the other two committee faculty members and the BIS Director.*

**3. The student will call a proposal meeting.**

\* *The student should schedule this meeting at a time convenient for you.*

*\* Before the meeting, the student will send you or give you a written copy of their proposal, which should answer the following questions:*

 *What is the capstone topic?*

*Why is this a significant topic, and how does it incorporate the three areas of concentration?*

*What is the student's plan for completing the project? (E.g., research methods, timeline, course of action, etc.)*

*\* Your role at the proposal meeting is to offer the student guidance, advice, and support. Any changes in the proposal you might suggest should be clearly stated on the "Proposal Meeting Form," which the student will ask you to sign at the end of the meeting.*

**4. The student works on the capstone, sending you drafts regularly.**

\* *It is the student's responsibility to stay in touch with you through e-mail contact, giving you drafts, and/or visiting you during office hours.*

*\* When you receive a draft, please give the student feedback quickly to revise the work.*

*\* Before the student calls the Oral Defense meeting, you should be satisfied that the paper is complete and finished.*

**5. The student invites you to attend the Defense meeting.**

\* *The student should schedule this meeting at a time convenient for you.* *The director of the BIS program also attends this meeting.*

\* *The student should ensure that you have time to read a final draft before attending the Defense meeting.*

\* *The student will have prepared a 10-minute oral presentation explaining what they did and what they learned. You can then ask questions and discuss the capstone project with the student, two faculty members, and the BIS director.*

* *You decide on an appropriate grade in negotiation with the other two committee members.*

**Capstone Grading Guidelines for Faculty**

These capstone grading criteria are intended to guide your assessment of BIS student work. The student demonstrated:

* High Impact Learning through a rigorously engaging capstone process
* Academic research, theory, and/or best practices in each disciplinary area
* Effective synthesis of the three disciplinary areas in an integrated capstone project
* Analytical, assessment, and problem-solving skills
* Oral and written skills in both spoken and written communications
* Time management and leadership skills necessary for success
* Effective communications with you as a faculty mentor
* Their ability to create a polished capstone project

Oral Defense Form

**Instructions to BIS Students:**

* Reformat this page, using the wording below as a template. Replace the parts in *italics* with your information.
* Bring one copy of your personalized Oral Defense From to your oral defense for your committee members to sign and write in a grade. Do not include it in your finished capstone as this completed form will be filed in our office rather than being sent to the library with your capstone.

Weber State University Bachelor of Integrated Studies Program

Approval of a BIS Capstone Project

***Your Title***

***Your Name***

This Capstone Project has been read by the following Capstone Committee members for a final grade of: \_\_\_\_\_

Comments:

***Your Committee Member’s Name*** Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Your Committee Member’s Name*** Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Your Committee Member’s Name*** Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Chapter 9

## Writing Your Capstone Paper

**Definitions:**

# Citation: Properly formatted reference to a source used when writing a scholarly paper that appears in the body of the paper.

# Reference List: The adequately formatted list of sources used when writing a scholarly paper that appears in a list format at the end of the paper.

*Scholarly Literature*: Scholarly literature consists of academic works published in peer-reviewed journals and books. **\***Peer-reviewed means that a group of academics with expertise related to article content have reviewed the article for accuracy, clarity, and significance before publication. Most academic disciplines have specific journals where field-specific content is published.

**The Role of Committee Members During the Writing Process**

Your committee members are responsible for mentoring your knowledge development, professional growth, and academic growth. They are **not** responsible for editing your paper or correcting grammatical, spelling, and punctuation errors. Focus on **content** and **appropriate style choice** with your committee members. Enlist the help of others for everything else.

## Obtaining Help with Grammar, Punctuation, Formatting, and Editing

The Weber State University Writing Center will help you with grammar, punctuation, formatting, and editing. You can learn more about the WSU Writing Center by going to the Writing Center Website or reading them online: <https://www.weber.edu/WritingCenter>

**What is the Writing Center?**
The Writing Center is a place where students receive assistance to become writers.

**Who are the Tutors?**
Tutors working in the Writing Center are students and who have been trained to help students with all aspects of writing. The tutors are a diverse group representing various majors. Tutors are also familiar with many different styles and types of writing so that they can help students with papers from any department.

**Do the Tutors only help with English papers?**
Tutors at the Writing Center help students write English papers, scientific research papers, abstracts, personal poems, narratives, resumes, and more.

**How can the Writing Center help me?**
A tutor will help with composition, grammar, and structure. The tutor works closely with you through the steps of writing. However, the tutors are not editors or proofreaders –they will not proofread your paper or act as a thesaurus and dictionary to provide different words. Be prepared with questions and specific areas that you want to work on within the paper, areas that you feel are not as good as they should be.

A tip: if you are looking for someone to write your paper for you or who will allow plagiarism, this is not the place.

**What kinds of resources does the Writing Center have available for students to use?**At the Writing Center, we have a variety of reference books--dictionaries, thesauruses, grammar handbooks –available, as well as knowledgeable, friendly tutors for you to consult. Our bulletin board has information about our workshops, other campus tutoring, and upcoming writing conferences and contests.

**What Does it Cost?**Nothing. It is part of your student services –take advantage of it.
**Do I need to make an appointment?**You can just drop in (in person or online). However, during exceptional (e.g., a pandemic) or busy times (e.g., final exams approaching), it is strongly recommended to schedule an appointment as many days in advance as possible. We just like to encourage you to plan ahead and get the most help when you need it.

**Can I just drop off my paper to have you fix the grammar and then come back later?**We work face to face and through online submissions. Our goal is not to be just a proofreading or editing service but to help you become a better writer and have a better paper.

 **How do I get more information?**
Tutors routinely give in-class demonstrations of the Center’s activities and resources. Ask your professor, or drop in and see us, and we can give you more information.

## Typical length of Papers for Different Capstone Project Types

 Primary and secondary research (thesis question or literature review) project papers are usually 25-30 pages long, including title page, abstract, the body of the paper, and reference list. Service Learning and creative project portfolios usually contain a 10-15 page support paper (including cover page, the body of the paper, and reference list), and appendices with journals, paperwork, photos, copies of teaching plans, pamphlets, music sheets, artwork, etc. totaling approximately 25-30 pages overall (including the 10-15 page support paper).

**Academic Style Options**

Academic papers are written in specific styles, which vary according to discipline. Because this is an interdisciplinary project, you will need to ask your committee members what style they prefer for your paper at the proposal meeting. The most common academic styles are listed below. Each style has associated websites and handbooks that will help format your paper correctly. The WSU Writing Center can help you understand how to format your paper correctly according to the required style:

* **American Psychological Association (APA)**
* **Chicago Manual of Style**
* **Modern Language Association (MLA)**

## Importance of Citations, References, and Scholarly Literature

 The importance of citations within the body of the paper, the reference list at the end, and the appropriate use of scholarly literature cannot be underestimated for **ANY** project option. Whether in a major 25-30 page paper or a 10-15 page support paper, you must demonstrate that you have carefully reviewed related scholarly literature, understood its significance, and have effectively applied knowledge gained from your capstone research. Your committee members will help you identify scholarly literature that may apply to your project. It is up to you to locate and read what has been suggested and then incorporate it into your work. The librarians at the WSU Stewart Library will assist you with locating and acquiring appropriate literature. This service can be provided either in person or online and is free of charge. If you work closely with WSU librarians, it will save you a significant amount of time, frustration, and worry.

**Services at WSU Stewart Library that will Support Completion of your Paper**

Content subject librarians are available at Stewart Library to help you complete scholarly papers related to coursework, senior projects, and capstone projects. Each discipline at WSU has a librarian assigned to that discipline to assist you. Contact the library reference desk for more help.

 Stewart Library also has an extensive collection of articles available online. These article databases can be accessed through the WSU Stewart Library homepage. There are also tutorials on the homepage to help you find relevant articles.

WSU students, faculty, and staff may access library databases and other online library resources from their home or other off-campus locations with an Internet connection. The Stewart Library Web site at[www.library.weber.edu](http://www.library.weber.edu) is your starting place for thousands of valuable resources, including full-text articles and indexing from thousands of magazines, journals, and newspapers; full-text encyclopedias, specialized dictionaries, and other reference resources.

**Chapter 10**

**Preparing for a Career: The Resume and Cover Letter**

One of BIS 3800 goals is to prepare students for life after college and help them find rewarding work. To that end, we offer information about presenting your record on a resume or c.v., applying for jobs, and interviewing for them.

**Preferred Resume Format**

Your resume should follow the model provided below. Your education, as well as your work history, should list your current or most recent degree or job and go backward (i.e., current job, last year’s job, and the job you had the year before). Listing your GPA is optional. Your educational highlights should contain opportunities you took to gain or display leadership above and beyond work and school. List any scholarships or memberships. Your Capstone Project section should be a brief narrative of your project and what you accomplished. Under work experience, tell what skills you learned, and quantify your performance where possible (tutored 14 kids and helped increase their grades by 24% on average). Use a bullet format for information under main entries rather than complete sentences. Proof your resume multiple times, have others look it over, have strangers take 15 seconds to look it over, and tell you if you have presented yourself to your best advantage. On the next page, you will find a template for the resume.

**Jane Doe**

1234 Wildcat Way • Ogden, UT 84408 • (801) 555-5555

John.Doe@mail.weber.edu • [www.linkedin.com/in/John-Doe](http://www.linkedin.com/in/John-Doe)

**EDUCATION**

**Weber State University,** Ogden, UT

Bachelor of Integrated Studies (Your projected graduation date) April 20XX

Areas of concentration: Area 1, Area 2, and Area 3.

Second Major [if there you have another besides BIS]: XXX Minor [if any]: XXXX GPA: (if over 3.4)

* Name of Scholarship, 20XX-20XX, Type of Scholarship (Merit, Athletic, Scholarship), Dates
* Educational achievements, awards, honors
* Relevant Coursework (Optional): Use course names, not course numbers

(If you have graduated from another university, list that school, degree, and other details using the same format as illustrated above for Weber)

**EXPERIENCE**

**Company Name,**  City, State

Title of position held June 20XX – August 20XX

* Bullet 1 Responsibilities and achievements--quantified where possible
* Bullet 2 Bullets should answer: (1) What did you do in your job? (2) How well did you do it? What difference did you make?
* Bullet 3 Keep bullets 1-2 lines. All bullets to begin with Action Verbs
* Bullet 4 Use 3-5 bullets for your most recent or relevant positions, 2-3 bullets for earlier or less relevant positions
* Bullet 5 Undergraduate resumes should be 1 page.

**Company Name,**  City, State

Title of position held January 20XX – December 20XX

* Bullet 1
* Bullet 2
* Bullet 3
* Bullet 4

**Company Name,**  City, State

Title of position held August 20XX – December 20XX

* Bullet 1
* Bullet 2

**LEADERSHIP/VOLUNTEER SERVICE (Optional Section)**

**Organization Name,** City, State

Title of position held October 20XX – October 20XX

* Bullet 1 Responsibilities and achievements--quantified where possible
* Bullet 2 Bullets should answer: (1) What did you do? (2) How well did you do it? What difference did you make?

**Organization Name,** City, State

Tile of position held September 20XX – January 20XX

* Bullet 1
* Bullet 2

**SKILLS (Optional Section)**

* Bullet 1: Focus upon Hard Skills. If Soft Skills are listed, they should also be demonstrated elsewhere in your resume.
* Bullet 2:

(Other Optional Sections can add to or replace the “Leadership/Volunteer Service” and “Skills” sections but use no more than three optional sections. Additional optional sections that can be used are listed below)

**TECHNICAL OR RESEARCH PROJECTS**

**CERTIFICATIONS**

**LANGUAGES**

**AWARDS/ACHIEVEMENTS**

**PROFESSIONAL ASSOCIATIONS**

**PERSONAL**

**Creating a Professional Cover Letter to Accompany Your Resume**

A polished cover letter will provide prospective employers the opportunity to assess your written communication style. Brian Krueger, author of *College Grad Job Hunter: Insider Techniques and Tactics for Finding a Top-Paying Entry Level Job,* offered this advice for cover letters:

**“A Basic Formula for Cover Letters**

1. Standard business letter format – name of individual making the hire, title, company, address in the top left
2. Salutation to a REAL person
3. The first paragraph should tell why you are writing [which is to]. . , meet that company’s specific needs
4. The second paragraph should briefly state two or three top skills followed with benefit after benefit that these skills will provide to the company
5. The third paragraph is the close!

Use a structure with which you feel comfortable and then customize your letter to the specific needs” of the potential employer.

**Chapter 11**

**Professional Preparation: The Interview and Career Portfolio**

**Appropriate job Interviewing Skills**

Weber State University Career Services Center offers job counseling, writing tips, information on how to effectively complete graduate school applications, job postings, and many other career-related services. You may obtain more information by visiting their website: <https://www.weber.edu/careerservices>

## How Employers See Student Candidates

*Survey conducted by Troy Nunamaker and Flora Riley of Clemson University – 2006*

*Professional Behaviors*

Recruiters have consistently commented that student candidates “fell short” of the employers’ expectations for knowledge of the company/organization with which they were interviewing. Employers feel that student candidates often do not conduct enough research on the companies before the interview.

Another concern focuses on students not sending thank-you notes after an interview and leaving only very informal/unprofessional voicemails as thank-you follow-ups. Most recruiters said they prefer e-mailed and handwritten notes instead of voicemails.

Students need strong presentation skills and need to use them to best present themselves as potential employees. Students should be very careful of their information and images on social networking sites since employers can see what applicants have posted.

**Preparation Tips for Interview**

• Analyze the job and the organization. **Make sure you know the job description.**

• Review each bullet on your resume and prepare a concise explanation for each.

• Practice giving succinct answers to potentially tricky questions.

• Prepare questions to ask the interviewer.

• Think through your job objectives and your goals.

• Know what job you want, why you want it, and *how you will benefit them by being hired*.

• Practice your delivery using a tape recorder or video camera.

• Watch for nervous habits such as knuckle cracking, chewing gum, etc.

• Dress like the professional person you are.

• Remember to take extra copies of your resume with you to the interview.

• Know the time, date, and location of the interview, and **Do not Be Late!**

• Remember to be yourself and remain relaxed.

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