I. Cover Page

Please fill in the gray areas on this form.

Date: 11/19/18

3rd Edition Writing Plan: Fall/2018
1st Edition submitted: Spring/2015

Applied Economics

WEC Unit Name
Applied Economics CFANS

Department
College

Metin Cakir
Assistant Professor

WEC Faculty Liaison (print name)
Title
mcakir@umn.edu 612-626-7769

Email
Phone

Writing Plan ratified by faculty

Note: This section needs to be completed regardless of Writing Plan edition.

Date: 11/27/18

If Vote: 24 / 27

#yes #total

Process by which Writing Plan was ratified within unit (vote, consensus, other- please explain):
one online vote
II. Unit Profile: Applied Economics

Please fill in the gray areas on this form.

Number of Tenured and Tenure-Track Faculty:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tr>
<td>Professors</td>
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<td>Associate Professors</td>
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<td>Assistant Professors</td>
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Comments about Faculty/Instructors:
None

Major(s)
Please list each major your unit offers:

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WEC Process

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<td>Teaching consultations</td>
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<td>Assignment collection and guide</td>
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<td>3 / 3</td>
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III. Signature Page

Signatures needed regardless of Writing Plan edition. Please fill in the gray areas on this form.

If this page is submitted as a hard copy, and electronic signatures were obtained, please include a print out of the electronic signature chain here.

WEC Faculty Liaison

Metin Çakır

WEC Faculty Liaison (print name)

[Signature]

Assistant Professor

Title

11/27/18

Date

Department Head/Chair

Frances Homans

Print Name

[Signature]

Professor & Head of Department

Title

11/2-7/18

Date

Associate Dean

Michael E. White

Print Name

[Signature]

Associate Dean, CFANS

Title

11/2-7/18

Date
IV. Writing Plan Narrative, 3rd Edition

Please retain section headers and prompts in your plan.

Introductory Summary:
Briefly describe the reason(s) this unit (department, school, college) became involved in the WEC project, the key findings that resulted from the process of developing this plan, and the implementation activities that are proposed in this Writing Plan, with particular attention to the following questions: what is new in this 3rd edition of the Writing Plan? What, if any, key changes have been made to the 2nd edition? What key implementation activities are proposed in this edition of the Writing Plan? (1 page maximum)

The Department of Applied Economics in CFANS offers two undergraduate majors: Applied Economics and Agricultural and Food Business Management. With two customizable undergraduate majors, the programs balance lower-division course work in the liberal arts with upper-division training in economic theory and the functional areas of business management. Students in both majors must develop strong critical thinking skills and data analysis proficiency, as well as the ability to communicate effectively with diverse governmental, business, and private sector audiences.

Incorporating writing as a critical aspect of our undergraduate curriculum has been an important aspect of our commitment to our students: we want to ensure that our students graduate as effective communicators. Ideas about how to infuse writing in our individual courses have spurred a collective effort by our faculty to consider both the role of writing in the field and the ways writing can help students master economic concepts.

A central component of the first implementation plan was to address writing in three core 3000 level courses in the major. While not all students take all three courses, students must take two of the three. Department faculty have worked with their TAs and WEC teaching consultant Dan Emery to incorporate writing into existing assignments and to design more effective rubrics for assessing student writing. Preliminary efforts have emphasized including written responses and writing activities in the context of learning economic theory and econometrics, and we hope to continue this effort by incorporating activities where students explain their decision-making processes and reflect on their choices and findings.

A key finding from the WEC survey of instructors, TAs, and undergraduate majors is that all faculty members surveyed consider writing to be either very or extremely important to the discipline. Many of the writing abilities identified by faculty in WEC meetings are common to many disciplines (e.g., writing clearly and concisely, displaying critical thinking). Some of the identified writing abilities, such as the ability to display and explain quantitative information and quantitative analysis, are more pertinent to our particular majors. As part of our implementation, we conducted workshops for teaching assistants about commenting and grading on student writing and for faculty on writing with quantitative information. The attendance to these workshops were good and ideas for follow-up activities emerged in each of these meetings.

As part of the second implementation plan we mapped the writing instruction in our curriculum and identified the writing genres used. We also interviewed our graduating seniors to gauge their assessment of our writing instruction and made updates to our courses and the curriculum in line with the WEC objectives. WEC research assistants (RA) have been extremely helpful in the implementation of the prior two plans. Some notable RA activities include helping us conduct surveys and interviews to obtain students’ assessment of our writing instruction, collect all the syllabi and instructional materials from all courses to map the writing instruction in the curriculum, identify the
writing genres used in the curriculum, develop generic outlines of wiring genres, and identify strengths and common features of the term papers and theses that won recognition in past regional economics association conferences such as the Minnesota Economics Association (MEA) student paper contests.

The WEC RAs also helped professors develop and revise course materials in line with WEC objectives. For example, the WEC RAs worked with professors in APEC 3002, APEC 3007 and APEC 4821W to develop grading rubrics for the bi-weekly exams and weekly assignments. These rubrics were designed to help students become more familiar with the expectations for their writing. The RAs also worked with professors to locate resources that help in designing better free response questions and improve the quality of the feedback to students.

As we continue to expand the implementation of WEC in our undergraduate curriculum in the next three years, we plan to hire research assistants to assist us in implementation of WEC activities. The RAs will continue to provide valuable assistance in helping us implement the Writing Plan. The objectives of the third Writing Plan and specific RA activities are listed below.

**Section 1: DISCIPLINE-SPECIFIC WRITING CHARACTERISTICS**

What characterizes academic and professional communication in this discipline?

- [ ] There have not been substantial revisions to this section of the Writing Plan.
- [x] There have been substantial revisions to this section of the Writing Plan. (Discuss these explicitly.)

Among the most significant abilities we hope students will display upon graduation is writing clearly and concisely. Our discipline has its own language and terminology, and it is important to use appropriate terminology when explaining a problem or phenomenon. Broadly considered, our goal is to promote students' abilities to use the tools of economic analysis in clear, effective, and appropriate ways to guide the decision-making processes of industry, regulators, governments and NGOs.

When data or quantitative information is used, it must be accurately derived and appropriately interpreted according to the principles of economic theory and analysis. Students should be proficient in communicating insights from economic data in both prose contexts and with tables, charts, and figures. Students should address a focal question or problem with relevant information that pertains to the particular case. Writers should consider multiple possible positions and make determinations based on the best available evidence.

Finally, students' written communication must be effective in addressing a target audience. Possible audiences include government officials, policy-makers, industry participants, academics, consumers, farmers, politicians, and the general public. Students should be able to make their communication relevant to the particular audience of their written work. The presentation must be organized in a logical manner, should provide the motivation behind the research/inquiry, and must provide content.

Our list, developed by consensus with the assistance of WEC staff, is below. We prize accuracy, clarity, and an analytical approach.

**Accurate**

About quantitative information—word choice, number choice; correctly interpreting and creating data/figures

Correct application of economic concepts/theory
Correctly cited

Analytical:
Uses economic concepts and theory to understand situations, issues, and outcomes from multiple perspectives
Makes evidence-based recommendations and shows effective professional judgment
Provides thorough description of a process, outcomes, results, impacts (winners/losers)
Clear and concise
Precise use of terminology, no excess jargon, not overly-technical
Brief, not overly wordy and no extraneous information or redundancy
Coherent and cohesive
Logical, intuitive, organization- meets the expectations of the audience
Readable: presents an easy to follow logic or story
Takes the reader through the writer’s thought process: reader can figure out how you got what you got (they can go with you, can follow the story)
Addresses a focal question or problem with relevant information, i.e., information that applies to given context and situation
Persuasive
Supports claims and recommendations with the best available evidence
Considers multiple perspectives and addresses potential counterarguments
Effective in its ability to address target audiences
Government officials, policymakers, industry participants, academics, consumers, farmers, public, business in general, spouses, politicians, media, clients in general
Ethical
Honest – not stretching to reach conclusions

Section 2: DESIRED WRITING ABILITIES
With which writing abilities should students in this unit’s major(s) graduate?

☒ There have not been substantial revisions to this section of the Writing Plan.
☐ There have been substantial revisions to this section of the Writing Plan. (Discuss these explicitly.)

Upon graduation, students should be able to write accurately and concisely using quantitative information and using field-specific terminology. They must also be able to analyze and interpret both quantitative and graphical data using economic concepts and theory. An important aspect of this is the ability to use an economic model to explain/analyze a problem and demonstrate an understanding of the context of the problem. For example, they
should be able to describe the method of analysis, how they gathered information, and how they obtained the results. In this process, they must be able to organize their material logically and present their point[s] of view. They must be aware of the target audience and should be able to carry the reader through their thought process.

Our list of writing abilities was generated in a series of meetings with WEC staff and is presented below.

1. Present and discuss quantitative information clearly and accurately
   1.1 Use field-specific terminology
   1.2 Interpret quantitative/graphical data (demonstrate quantitative literacy)
   1.3 Present data objectively (vs. subjectively)
   1.4 Make appropriate choices about which data is represented in informative figures (not dropping figures in from source information)
   1.5 Make appropriate choices about the graphical presentation (type of chart, amount of annotation, etc.)
   1.6 Prepare effective presentations

2. Apply economic concepts/business principles in analysis of problem
   2.1 Demonstrate an understanding of the context or environment of a problem or process
   2.2 Describe and evaluate assumptions and logic
   2.3 Describe the processes or mechanism that will lead/did lead to a result
   2.4 Describe the method of analysis, information gathered, the results obtained
   2.5 Use economic concepts and theory to understand situations, issues, and outcomes
   2.6 Construct thesis and counter-thesis in economic terms
   2.7 Recognize and describe patterns, likeness, groupings, similarities, differences; interpret and explain others’ work
   2.8 Describe a financial decision, use a model to analyze it, determine which inputs are required and know how to analyze the results
   2.9 Predict and explain outcomes and impacts, benefits & costs, winners and losers

3. Organize material logically
   3.1 Present a clear introductory statement or paragraph
3.2 Identify and prioritize key issues, steps, and concepts such that readers know where they are going at all times

3.3 Highlight key findings, show how they were calculated or derived, and explain any variation or limits

4. Communicate clearly and concisely

4.1 Highlight key findings as the focal point of communication

4.2 Address a target audience using the right technical level, and apt levels of jargon

4.3 Avoid repetition and wordiness; choose appropriate words

4.4 Write with concise and grammatically correct sentences

5. Write persuasively

5.1 Make a reasoned argument and evidence that argument using key literature/background/data for support

5.2 Summarize relevant information concisely; capture the essence of a situation or debate

5.3 Synthesize information from multiple sources to extend it into new contexts which results in new understanding

5.4 Address multiple sides, perspectives

5.5 Find their own voices and convey individual perspectives and points of view in a logical and convincing manner

6. Engage in constructive writing process

6.1 Give and receive feedback about writing

6.2 Constructively analyze and revise one’s own writing

Section 3: INTEGRATION OF WRITING INTO UNIT’S UNDERGRADUATE CURRICULUM

How is writing instruction currently positioned in this unit’s undergraduate curriculum (or curricula)? What, if any, course sequencing issues impede an intentional integration of relevant, developmentally appropriate writing instruction?

☐ There have not been substantial revisions to this section of the Writing Plan.
☐ There have been substantial revisions to this section of the Writing Plan. (Discuss these explicitly.)

All the courses in our undergraduate curriculum deliver writing instruction. The mapping of the writing instruction in the curriculum is provided in the appendix which shows that each of our courses addresses a subset of the desired writing abilities. The writing genres used in our curriculum are problem sets, essays, case studies, figures visualizations, projects, and presentations.

While we do not have any concerns about the course sequencing we realize the need for improvements especially in delivering quantitative writing instruction and providing students with more opportunities to write term projects. To
this end, we introduced a new course (ApEc 1201) for the two majors that provides instruction on how to present and write about quantitative information. In addition, changes were made in courses such as 3002, 3007, and 4821W to strengthen the writing instruction such as adding writing assignments, developing rubrics, and revising the term project requirements in ways that improve the frequency and quality of feedback given students and allow them to revise and resubmit.

Section 4: ASSESSMENT OF STUDENT WRITING
What concerns, if any, have unit faculty and undergraduate students voiced about grading practices?

Please include a menu of criteria extrapolated from the list of Desired Writing Abilities provided in Section 2 of this plan. (This menu can be offered to faculty/instructors for selective adaptation and will function as a starting point in the WEC’s longitudinal rating process.)

☑️ There have not been substantial revisions to this section of the Writing Plan.
☐ There have been substantial revisions to this section of the Writing Plan. (Discuss these explicitly.)

Assessment of student writing will be based on the following ten criteria:

1. Articulates a debatable position that can be supported by evidence.

2. Supports a central argument with relevant literature, contrasting positions and data.

3. Consistently addresses a target audience with appropriate style and terminology.

4. Organizes material logically and explicitly highlights key findings such that the readers know what is important and where they are going at all times.

5. Presents summary of data in ways that are standard in economics (e.g., means, standard deviations, histograms), with captions and citations.

6. Demonstrates an accurate understanding of relevant economic concepts.

7. Applies economics concepts/business principles in appropriate context or environment.

8. Provides justifications for measures, calculations, and applications.

9. Describes patterns, likenesses, groupings, similarities and differences to interpret and explain others’ work.

10. Identifies both significant results and important variables.

These criteria are being integrated via assignments and term projects. The term project of APEC 4821W, described in the previous section, is a good example of how these criteria are being integrated in writing. For example, to achieve criteria (4) students are given a sample outline that could be used as a template for organizing sections and subsections of their report. Furthermore, the importance of highlighting key findings is explicitly embedded the grading rubric. For example, the grading criteria for the introduction section are listed as: i) clearly states the objective, ii) explains why the study is interesting and worth reading, iii) concisely highlights all important ideas and findings.

Similarly, the project is also designed to achieve the quantitative writing abilities described in criteria (5) and (8). First, students are provided with a handout that describes goals and learning outcomes of the project, as well as the
expectations from students. The handout clearly states the main types of the quantitative analyses that the students are required to perform. Students are also provided with a number of sources of data that are potentially useful for their study.

We conducted WEC ratings of the student writing in two of our courses at the end of the first and second implementation plans. The second rating report and its comparison to the first report was discussed in our most recent faculty meeting. A general impression was that the second ratings were significantly improved over the first ratings, but there was still room for more improvement. In particular, it appeared that more emphasis should be put on criteria (5) and (9).

Section 5: SUMMARY OF IMPLEMENTATION PLANS, including REQUESTED SUPPORT and RELATION TO PREVIOUS IMPLEMENTATION ACTIVITIES, and SUSTAINABILITY PLANS

What does the unit plan to implement during the period covered by this plan? What forms of instructional support does this unit request to help implement proposed changes? What are the expected outcomes of named support?

How do the implementation plans of the 3rd edition Writing Plan relate to implementation activities from the 2nd and 1st edition Writing Plans? What has been successful? What was not successful? How do implementation plans build on what was learned from the first year of implementation? How do implementation plans anticipate the ongoing application of this final edition Writing Plan?

How will the unit move toward ownership of the implementation process after the end of eligibility for WEC funding? When needed, what will be sources of funding and resource support? How will ongoing evaluation and improvement of the Writing Plan take place?

We have a number of objectives.

1. At the end of the period covered by the second writing plan we received WEC rating reports of writing samples from two of our courses. We plan on evaluating the rating data and develop instruments/strategies where the ratings fell short. This objective complements our ongoing efforts of synthesizing the information collected from the mapping of the writing instruction in our curriculum and student surveys. Details of these activities provided in response to the next question.

2. We plan on mapping of the instruction on quantitative writing and analysis in the curriculum. Providing instruction and insight into presenting and writing about quantitative information is one of our primary goals. A mapping of the quantitative writing instruction will help us identify the required quantitative skills in each of these courses and the strength of the complementarities between them.

3. We plan on collecting information on perspectives of internship supervisors and employers from the industry (e.g., General Mills, Target) and the public sector about student writing abilities. We expect learning about writing requirements in a work place and our students’ capabilities in meeting those requirements will help us implement meaningful course-based innovations and revisions to the curriculum. We plan on consulting with Rebecca Swenson who is teaching AFEE 3096 and has connections with the employers. We also plan on consulting with the Career and Internship Services to connect with the employers who hire our graduates.

4. We plan on designing tools/strategies that would allow us provide feedback to students on their writing abilities and collect feedback from students about our writing instruction on a continued basis.
5. We plan on identifying/developing sample rubrics for some writing genres used in our curriculum and make them available to all faculty via a sharable folder. Currently, our shareable folder includes generic outlines of writing genres used in our curriculum, e.g., case studies and visualization and graphics, etc. Faculty can access these outlines and add to their course syllabi. We plan on matching these outlines with sample assignments and rubrics that are not yet available. The goal is to provide faculty who would like to adopt or revise writing instruction in their courses with additional resources.

6. We plan on designing tools/strategies that facilitate exchange between APEC and ACM faculty about good writing instruction practices.

How do the implementation plans of the 3rd edition Writing Plan relate to implementation activities from the 1st and 2nd edition Writing Plans? What has been successful? What was not successful? How do implementation plans build on what was learned from the first year of implementation? How do implementation plans anticipate the ongoing application of this final edition Writing Plan?

In the first edition of our writing plan, we identified the desired writing abilities for ApEc and AFBM majors and developed grading criteria that would be used to assess those abilities. We then commenced our process of articulation of these writing abilities in a designated set of courses in our undergraduate curriculum. We used the funds provided for our first edition of our plan to hire two graduate research assistants, each at ¾ time, to develop instructional resources and competencies for our program. One of the activities of the WEC RA was to collect samples of student papers that won the Minnesota Economics Association competition as part of helping us to implement student paper contests as part of our WEC plan.

During the period for the second edition of the writing plan our implementation activities could be summarized in three groups: (i) collecting data on our writing instruction in the curriculum, (ii) providing resources for faculty pertaining to writing instruction in their courses, and (iii) making updates to our courses and the curriculum in line with the WEC objectives.

We collected all syllabi and course materials to map writing instruction in our curriculum. This helped us identify where in the curriculum writing instruction is delivered, what kind of writing genres are used, and how the writing instruction is aligned with our desired writing abilities. In addition, we designed interviews and surveys to evaluate our graduating students’ assessment of the writing instruction in our curriculum. Lastly, we conducted peer ratings of writing samples from two courses. All this information is presented to the faculty in our monthly faculty meetings.

We created a sharable folder where all WEC materials, such as the writing plans, student ratings of writing instruction, peer ratings of student writings and the mapping of the writing instruction made available. After identifying the writing genres used in our curriculum we created generic outlines of these genres, e.g., problem sets, case studies, visualization and graphics, etc. These outlines are made available to the faculty in the sharable folder and can be added to the course syllabi.

We added APEC 1201 for the two majors that provides instruction on how to use Excel and how to present and write about quantitative information. The course was taught as a special topics course for two years before getting a permanent course number. Enrollment has grown from 8 students in 2016 to 14 in 2017 to 27 in 2018. We have not yet imposed a requirement that students take this class, but are considering it. In addition, our faculty are
making changes to their courses in line with the WEC objectives on a continuing basis. For example, there is considerably more writing in ApEc 1001, the Orientation class. Students are asked to write two short papers that incorporate quantitative information. They are also asked to respond in journal form to guest speakers. Early writing (in the Orientation class) sets an expectation that writing is important in both majors.

Our objectives for the third writing plan are closely related to or the continuation of the implementation activities of the 1st and 2nd writing plans. The first objective evaluates the ratings that we received in the second writing plan together with all other information that have already collected. The second objective is the continuation of the mapping of the writing instruction in this case we are focusing on the mapping of the quantitative writing. The third and fourth objectives are continuation of our efforts on collecting information about writing instruction in the curriculum. In this case, in addition to students’ feedback we are soliciting feedback from employers. Similar to providing outlines of writing genres as a resource to faculty, the fifth objective will provide sample rubrics for those genres. Finally, the last objective will help us achieve a sustainable WEC.

How will the unit move toward ownership of the implementation process after the end of eligibility for WEC funding? When needed, what will be sources of funding and resource support? How will ongoing evaluation and improvement of the Writing Plan take place?

We find that collecting information on writing instruction and sharing the information with the faculty achieves a continued dialogue between the faculty. So far, the WEC RA has been critical in carrying out these tasks. Because we already have engagement in early, middle, and late courses, we hope that additional information on working with quantitative data can build upon and extend these efforts. While many faculty have added additional writing assignments and modified their existing ones, assignments related specifically to data exploration and visualization could be an area for additional impact.

In addition, we think that student exit interviews and surveys provide valuable information. We conducted an exit survey last year for the first time and shared the information with the faculty. We plan on conducting these surveys on a regular basis and devote one section of the survey for the evaluation of the writing instruction. A Faculty member (e.g., an undergraduate committee member or the WEC liaison) will summarize and present the data to the faculty for their thoughts and evaluation. These assessments will also be discussed at undergraduate committee meetings and action items will be determined.

Section 6: PROCESS USED TO CREATE THIS WRITING PLAN
How, and to what degree, were a substantial number of stakeholders in this unit (faculty members, instructors, affiliates, teaching assistants, undergraduates, others) engaged in providing, revising, and approving the content of this Writing Plan?

The writing plan was discussed in undergraduate committee meetings and the departmental faculty meetings. Faculty members and Instructors actively participated in the faculty meetings and provided substantive input (including ideas) in the creation of the Writing Plan.
V. WEC Research Assistant (RA) Request Form

This form is required if RA funding is requested. If no RA funding is requested please check the box below.

☐ No RA funding requested.
☒ RA funding requested.

RAs assist faculty liaisons in the WEC Writing Plan implementation process. The specific duties of the RA are determined in coordination with the unit liaison and the WEC consultant, but should generally meet the following criteria: they are manageable in the time allotted, they are sufficient to their funding, and they have concrete goals and expectations (see below).

RA funding requests are made by appointment percent time (e.g., 25% FTE, 10% FTE, etc.). Appointment times can be split between two or more RAs when applicable (e.g., two 12.5% appointments for a total of 25% FTE request). Total funds (including fringe benefits when applicable) need to be calculated in advance by the liaison, usually in coordination with administrative personnel.

Please note that, outside of duties determined by the liaison, WEC RAs may be required to participate in specific WEC activities, such as meetings, Canvas discussion boards, and surveys.

RA Name (Use TBD for vacancies): TBD
RA Contact Information: email TBD, phone
Period of appointment (Semester/Year to Semester/Year): Fall 19 to Fall 21
RA appointment percent time: Varies (25/25/9)

Define in detail the tasks that the RA will be completing within the funding period:

The tasks of the WEC RA are central to achieve our objectives for 3rd Writing Plan. The primary responsibilities of the RA include:

(i) Mapping the quantitative writing instruction: We collected materials from all our courses in the prior writing plan. The RA will review these materials and help us map the quantitative writing instruction to identify the required quantitative skills in each of these courses and the strength of the complementarities between them. This is our second objective.

(ii) Conducting interviews and surveys and employers: The RA will help us identify a sample of employers, design and implement surveys to get perspectives of employers on our students writing abilities. This is our third objective.

(iii) To achieve our 5th objective the RA will review collected course materials to identify sample rubrics of the writing genres used in the curriculum. The RA will work with professors to develop any rubrics that is needed for the sample. These rubrics will be made available to all faculty via a sharable folder.

(iv) The RA will work with the WEC Liaison to revise and implement the student exit surveys. Previously two surveys. A departments’ exit survey where students were asked general questions about the department and curriculum and a survey specifically on writing instruction and students’ self-assessment of their writing abilities. Going forward we would like to combine these two surveys and make students’ assessment of writing instruction as part of our ongoing departmental writing review. This is part of our fourth objective.
(v) We expect other RA tasks to emerge as the faculty evaluates the ratings of students' writing and develops instruments to address where the ratings fell short. This is part of our first objective.

Define deadlines as applicable (please note that all deadlines must be completed within the funding period):

The tasks of the WEC RA are central to achieve our objectives for 3rd Writing Plan. The primary responsibilities of the RA include:

(i) Mapping the quantitative writing instruction: We collected materials from all our courses in the prior writing plan. The RA will review these materials and help us map the quantitative writing instruction to identify the required quantitative skills in each of these courses and the strength of the complementarities between them. This is our second objective.

(ii) Conducting interviews and surveys and employers: The RA will help us identify a sample of employers, design and implement surveys to get perspectives of employers on our students writing abilities. This is our third objective.

(iii) To achieve our 5th objective the RA will review collected course materials to identify sample rubrics of the writing genres used in the curriculum. The RA will work with professors to develop any rubrics that is needed for the sample. These rubrics will be made available to all faculty via a sharable folder.

(iv) The RA will work with the WEC Liaison to revise and implement the student exit surveys. Previously two surveys, A departments’ exit survey where students were asked general questions about the department and curriculum and a survey specifically on writing instruction and students’ self-assessment of their writing abilities. Going forward we would like to combine these two surveys and make students’ assessment of writing instruction as part of our ongoing departmental writing review. This is part of our fourth objective.

(v) We expect other RA tasks to emerge as the faculty evaluates the ratings of students' writing and develops instruments to address where the ratings fell short. This is part of our first objective.

Describe how frequently the RA will check in with the liaison:

Weekly

Describe in detail the RA’s check-in process (e.g., email, phone, in-person, etc.):

In person and email

\[1\] An example for determining funding for appointments can be found on the WEC Liaison Google site. This is for planning and example purposes only and cannot be used to determine final budget items for the Writing Plan.
### VI. WEC Writing Plan Requests

**Unit Name:** APPLIED ECONOMICS  
**Unit Financial Contact Name/Email:** [Name]@[university.edu]  
**Chart string for fund transfer:** [Code]

**Financial Requests** (please include faculty salary support)  
*Drop-down choices will appear when cell font is selected*

**Total Financial Request:** $24,973.00

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<td>Research Assistant Support</td>
<td>$6,645.00</td>
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Semester 1 Total: $9,154.00  
Semester 2 Total: $9,154.00  
Semester 3 Total: $6,645.00  
Semester 4 Total: $0.00  
Semester 5 Total: $6.00  
Semester 6 Total: $9.00

*Note for cost and their schedule of distribution*

*We pay to NY Ph.D. level research assistant for 15% percent time in Fall 2019 and Spring 2020 and 10% time in Fall 2020.*

### Service Requests

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*Note for service*

*Individual consultations with faculty in the department are intended to focus on writing assignments, refinements of writing abilities, and development of assessment rubrics. As we expand WEC in our undergraduate curriculum (AUC) and AF MAT, we will conduct In-class visits to help students understand how WEC is being implemented in the curricula.*
Business Reports

Multiple courses give students the opportunity to work on a self-designed project, particularly those for the AFBM major. These projects range in scope, difficulty, and deliverables so to aid in the grading of these projects, professors usually require students to write final reports as well as progress reports throughout the process.

Purpose:
Business reports synthesize and summarize research, data, knowledge, and analysis into one written document. Ranging from a couple pages in length to a few dozen, reports convey every piece of insight an economist would if they could be there in person. Business reports are left in the person's stead so the interested parties can consume the information at their own pace.

Audience:
Business reports are written to a the manager who commissioned the report or anyone else interested in the results.

Characteristics of Business Reports:

- Title Page
  - Similar to other title pages you’ve seen before in books and other published materials, it should include the basic information about the report.
  - Individual elements include the title itself, the name of the sponsoring organization, the name of the organization that wrote the report (if different from the sponsoring organization), the names of the primary writers, and the date.
  - Note that it is a title page and not title pages...keep it to one page.

- Executive Summary
  - This acts as a condensed version of the report so that someone who is very busy (e.g., an executive in the organization) could quickly glean all the important information about the project or issue for which the report was written.

- Table of Contents
  - Includes the names of all sections and subsections within the report along with the page it first appears.
  - Typically the names are left-aligned and the page numbers are right-aligned.
  - For ease of reading it is better to include a sequence of periods to fill the space between name and page number.

- Project Overview
  - You could think of this section as the introduction of the report. You should state the objective of the project, data used and analysis.
  - It could also contain some background information on the sponsoring organization in addition to the context and background for the project itself.

- Approach and Plan
Once the reader knows what the problem is, explain the actions taken to solve the project.

Be intentional in how you sequence the aforementioned actions. Take the reader step by step through your thought process without making major leaps.

- Issues Encountered
  - You’re going to encounter issues. Write about them. You don’t need to go on and on detailing every little misstep. Keep it to the big picture. This section is mostly so people know what not try in the future.
  - Be objective when discussing issues encountered. Do not understate or overstate the importance of a particular shortcoming of the work. When possible, address if and how any shortcomings might overcome.

- Results
  - If there’s any one section a busy reader might skip to, it would be the Results section. Write with that in mind putting the most important information first, followed by the next most important, and so on.
  - In addition to presenting technical results (e.g., regression results, statistics) also include a layperson’s interpretation so that people without strong technical backgrounds can ascertain the important takeaways.

- Conclusion
  - This section should cover the key points of the entire report. There should be a summarizing sentence or two from each of the previously mentioned sections.
  - Depending on the circumstance, you may also want to include ideas for future projects. If the issues you encountered prevented the original project from being completed, how should the next person change their approach so that those issues are avoided?

- Appendix
  - Key results are always presented in the main body of the report. But depending on the exact background of the audience, more technical analyses, calculations, and formulations could be best placed in an appendix at the end of the report.

- Style
  - The writing should be direct and use a level of detail appropriate to the intended audience.
  - Eliminate extraneous words. Communicate your point in as few words as possible.

- Figures and Visualizations
  - Business reports will almost always include graphs, tables, or other visualizations. See the documentation on Graphics and Visualizations for more detailed information.
  - All tables and figures should be numbered. Use these numbers when referring to them in the text. All should have some reference in the text or they shouldn’t be
there. The first table referred to by the text should be Table 1, the second should be Table 2, etc. The same rule applies to figures.

Writing Abilities Expressed within Business Reports:
The ApEc writing plan identifies a number of desired writing abilities for graduates of the program. Business reports require the following writing abilities emphasized by the ApEc department:

- Make a contribution and provide evidence of that contribution; summarize and synthesize relevant literature, background or data for support
- Address a target audience using the right technical level and apt levels of jargon
- Organize material logically (present a clear introductory statement or paragraph; identify and prioritize key issues, steps and concepts so that the writing flows nicely; highlight key findings)
- Represent data and content in visual modes. i.e., make appropriate choices about which data is represented in informative figures (not dropping in figures from source information); and make appropriate choices about the graphical presentation (type of chart, amount of annotation, etc.)
- Interpret quantitative, graphical data (demonstrate quantitative literacy)
- Present data objectively (vs. subjectively)
- Apply economic concepts and business principles in analysis of problem; demonstrate an understanding of the context or environment of a problem or process
- Describe the processes or mechanism that lead or will lead to a result; describe the method of analysis, information gathered and the results obtained
- Use economic concepts and theory to understand situations, issues and outcomes
- Construct a thesis and counter-thesis in economic terms
- Recognize and describe patterns, likeness, groupings, similarities and differences; interpret and explain others' work
- Describe a research question and develop a regression model to answer it. Verbally interpret the regression results paying attention to both statistical and practical significance.
- Engage in constructive writing process; give and receive feedback about their writing; constructively analyze and revise their own work; accept feedback and criticism willingly
Case Studies

Case studies are a writing genre that may be presented in a few different settings throughout the ApEc curriculum. Case studies present real world business situations to practice analytical and problem-solving skills.

Purpose:
Case studies are used to explore a real-life application of the concepts being taught. They take into account the competitive landscape, personalities, and corporate or institutional history and culture. Cases also include irrelevant “noise” disguised as fact to make them realistic, as well as the impacts of previous decisions.

Audience:
In the context of the ApEc curriculum, case studies will typically be presented as an assignment with guiding questions or as a class discussion. In these contexts, the audience for the documents produced will typically be the professor, teaching assistants, fellow classmates, or sometimes a specific character from the case study.

Characteristics of Case Studies:¹
A case typically has the following three characteristics:
- A significant business or organizational issue or issues
- Sufficient information on which to base conclusions
- No stated conclusions

Many cases also have complicating properties:
- Information that includes “noise” – irrelevancies, dead ends, and false, biased, or limited testimony by characters in the case
- Unstated information that must be inferred from the information that is stated
- A nonlinear structure in which related evidence is scattered throughout the case description and is often disguised or left to inference

Writing Abilities Expressed within Case Studies:
The ApEc writing plan identifies a number of desired writing abilities for graduates of the program. Business reports require the following writing abilities emphasized by the ApEc department:
- Make a contribution and provide evidence of that contribution; summarize and synthesize relevant literature, background or data for support
- Address a target audience using the right technical level and apt levels of jargon

¹ Taken from The Case Study Handbook.
• Organize material logically (present a clear introductory statement or paragraph; identify and prioritize key issues, steps and concepts so that the writing flows nicely; highlight key findings)
• Represent data and content in visual modes. i.e., make appropriate choices about which data is represented in informative figures (not dropping in figures from source information); and make appropriate choices about the graphical presentation (type of chart, amount of annotation, etc.)
• Interpret quantitative, graphical data (demonstrate quantitative literacy)
• Present data objectively (vs. subjectively)
• Apply economic concepts and business principles in analysis of problem; demonstrate an understanding of the context or environment of a problem or process
• Describe the processes or mechanism that lead or will lead to a result; describe the method of analysis, information gathered and the results obtained
• Use economic concepts and theory to understand situations, issues and outcomes
• Construct a thesis and counter-thesis in economic terms
• Recognize and describe patterns, likeness, groupings, similarities and differences; interpret and explain others' work
• Describe a research question and develop a regression model to answer it. Verbally interpret the regression results paying attention to both statistical and practical significance.
• Engage in constructive writing process; give and receive feedback about their writing; constructively analyze and revise their own work; accept feedback and criticism willingly
Email Correspondence
Correspondence via email is a writing genre that is utilized constantly throughout the ApEc curriculum. Effective correspondence is prevalent and necessary in all work environments.

Purpose:
The purpose of correspondence is to communicate information. In an academic environment, this information may be regarding a number of topics such as coursework or administrative information. In a professional environment, this information may be regarding topics such as job tasks and responsibilities.

Audience:
The audience for correspondence is the recipient(s) of the email. The recipients may vary greatly depending on the context of the correspondence. Email correspondence also includes fields such as courtesy copy (cc:) and blind courtesy copy (bcc:) to designate audience members other than the direct recipient of the email. Audience members in the cc: field receive a copy of the email and are visible to other recipients, and audience members in the bcc: field receive a copy of the email and are not visible to other recipients of the email.

In an academic environment, the audience may be a professor, teaching assistants, advisors or classmates.

In a professional environment, the audience may be a manager, colleagues, assistants, customers or external organizations.

Never assume that emails are confidential – “Never put in a mail message something that you wouldn’t want other people to read.”

Elements of Correspondence:
Email correspondence typically includes the following characteristics:

- Subject Line
  - The subject line is typically a short phrase or select keywords to accurately summarize the purpose of the correspondence.

- Greeting
  - The greeting will depend on the context of the correspondence.
  - Typical greetings may include Dear, Hello, and/or the recipient’s name/title. Always address people you haven’t met before as “Mr./Mrs./Ms.,” or “Professor”. Only address them by their first name if they have explicitly told you to do so, or sign an email using just their first name.

- Body
  - The body is where the context of the correspondence is included.
  - The writing should be professional and contain few errors. This includes using capital letters at the beginning of sentences and avoiding abbreviations like “cuz”

- Attachments
  - Attachments are additional documents relevant to the correspondence. Attachments may be PDFs, Microsoft Office documents, pictures, etc.

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1 Writing for Science and Engineering
If attachments are included, refer to them in the body of the email.

- Closing/Signature
  - The closing will also depend on the context of the correspondence.
  - Typical closings may include Sincerely, Thank you, or the sender's name/title.

Writing Abilities Expressed within Correspondence:
The ApEc writing plan identifies a number of desired writing abilities for graduates of the program. Correspondence requires the following writing abilities emphasized by the ApEc department:

- Address a target audience using the right technical level, and apt levels of jargon
- Organize material logically (present clear introductory statement or paragraph; identify and prioritize key issues, steps, and concepts such that readers know where they are going at all times; highlight key findings)
- Interpret quantitative, graphical data (demonstrate quantitative literacy)
- Present data objectively (vs. subjectively)
- Apply economic concepts/business principles in analysis of problem; demonstrate an understanding of the context or environment of a problem or process
- Use economic concepts and theory to understand situations, issues, and outcomes
- Recognize and describe patterns, likeness, groupings, similarities & differences; interpret and explain others' work

Examples of Correspondence:

To: Tim Johnson
Cc: TA
Subject: Session 13

Hello Professor Johnson,

I had some difficulty understanding the topics discussed in lecture this past week. Could you please help me to understand some of the differences between Agile and Traditional Project Management styles? I am happy to stop by office hours or meet with a TA if this will be easier.

Thank you,

David Williams

To: TA
Subject: Homework #9
Attachment: HerronHW9.pdf
[TA's name],
I see I had the incorrect answer for problem 2 on Homework #9. I have reviewed the solutions, but I am still unclear how the correct answer was calculated. Could you please provide some clarification on how to complete this problem correctly and point out guidance for where my errors occurred? I have attached my Homework #9 for your reference.

Thanks,

Lavanya Herron
Graphics and Visualizations

It might be cliche, but a picture is truly worth 1000 words. Graphics and visualizations might also be an explicit requirement of a problem set, report, case analysis, or proposal; in that case, it’s also worth points!

Purpose:
Graphics and visualizations illustrate a concept difficult explain in written text. It can also be exceedingly powerful and educational to see a concept displayed on paper. For these reasons, graphics and visualizations play an integral role in business and economics to convey results.

Audience:
Almost all forms of writing (problem sets, reports, case analyses, and proposals) require graphics and visualizations at one point or another. Fittingly, the audience for this genre is equally diverse. Professors, TAs, outside organizations or sponsors, and even your fellow classmates may lay their eyes upon your illustrious illustrations.

Elements of the Graphics and Visualizations:

- Title or Caption
  - Describes the information presented in the visualization
  - Only one is required; don’t get crazy.
  - Titles usually appear above a graphic, and captions below.

- Axes
  - Should include appropriate labels and units with tick marks—when they aren’t a distraction
  - If a part of the scale is omitted, place a jagged line over the axis where the jump occurs.

- Plots
  - Composed of clear, crisp lines, paying particular attention to key points (e.g., intersections, maxima, minima, etc.)

- Legends
  - Contains colors or symbols used in the chart and a short description of what it represents
  - Included only when necessary
  - Pay attention to the colors and symbols you use. Colors shouldn’t be used when printing in grayscale; rather; use symbols that are distinguishable from one another. Your reader should spend their time deciphering the data presented, not trying to figure out which line is which.

- Pictures
  - Avoid pixelated or blurry images
  - Make sure pictures are not stretched in either direction

The following questions can serve as a guide in creating a good chart:
1. Can it stand alone?
2. Are the insights apparent?
3. Does it accurately represent the data?
4. Does the formatting support the insights, not clutter (Edward Tufte’s “chartjunk”)

A Tip:
Experimental evidence shows that people are better at estimating relative sizes of linear distances than wedges. That is, the evidence favors using stacked bars over pie charts.

Writing Abilities Expressed by Graphics and Visualizations:
The ApEc writing plan identifies a number of desired writing abilities for graduates of the program. Graphics and Visualizations require the following writing abilities emphasized by the ApEc department:

- Represent data and content in visual modes, i.e., make appropriate choices about which data is represented in informative figures (not dropping in figures from source information); and make appropriate choices about the graphical presentation (type of chart, amount of annotation, etc.)
- Interpret quantitative, graphical data (demonstrate quantitative literacy)
- Present data objectively (vs. subjectively)
- Prepare effective presentations
- Recognize and describe patterns, likeness, groupings, similarities and differences; interpret and explain others' work
Presentations

You’ve probably given presentations before in high school, and you’ve probably seen a number of them yourself, both good and bad. Most presentations you give in ApEc will be towards the end of the program in the more advanced courses. Even so, presentations will likely follow you into whatever line of work you choose to pursue so it is in your best interest to master this genre as quickly as you can.

Purpose:
Presentations are the visual equivalent to research papers in that they synthesize and summarize information. Sometimes you’ll just need to talk for a few minutes, whereas other times you’ll be called upon to present for an hour. In both of these extreme situations—and everything in between—you should be able to adapt and emphasize the key points you want to convey, while simultaneously providing details that inform but don’t bore your audience.

Audience:
Audience is crucial in determining the information, pace, and technical difficulty of a presentation. Even your own demeanor when you present could be influenced by your audience. As an economist, you’ll present to a wide array of people: from professors and classmates to industry professionals and executives.

Characteristics of Presentation:
There are many things to consider when designing a presentation. The following characteristics are divided into four categories: organization, content, visual aids, and delivery. For detailed advice on designing presentations, visit Todd Rebold’s website at http://environment.umn.edu/staff/todd-rebold/. Mr. Rebold gives extremely helpful tips and has even coalesced them into a presentation of his own! The video is on his website.

Organization
- Clear Objectives
  - Before you even begin designing any aspect of a presentation, think about what you want your audience to gain from listening to your presentation. These objectives will guide what information you include in your presentation and the format in which you present it.

- Logical Structure
  - Think of a presentation like a story. It should have a beginning, middle, and end and each piece of information should be related to the next one. Avoid jumping around mentioning details later in the presentation because you forgot to do so earlier.

Content
- Title Slide
  - This should include your name(s), project title, sponsors (both individual people and organizations/companies), as well as the date.
- The font and color should match the rest of your presentation, but the font size should be a bit bigger.

- Overview/Introduction
  - Some presentations dedicate a slide to overview the presentation. But, it is optional, you could just say the overview without having the words on the screen.
  - If you do choose to have a slide, each item within the overview should be relatively short—no more than a few words long. Save the details for when you actually discussing the item within your talk.
  - Should be attention-getting and establish a framework for the rest of the presentation.

- Body
  - Presentation contains accurate information and analysis.
  - Appropriate amount of material is prepared, and points made reflect their relative importance.

- Takeaways/Conclusions
  - You’ll most likely want a slide summarizing the key points at the end of your presentation. This helps ensure that the audience will remember the overarching takeaways from your talk.
  - Each individual takeaway should be clear and concise. Make it easy for your audience to remember each one.

Delivery

- Script
  - You, the presenter, should be the most important part of a presentation. Your slides should complement the words coming out of your mouth; they shouldn’t be a distraction.
  - Don’t become overly formulaic in your language when presenting. Cursing is not advised, but strive not to sound like a robot either. Be professional, and talk as if you were in a conversation with just one or two people from the audience.
  - Pace yourself according to the Goldilocks Rule: not too fast, not too slow, but just right.
  - If you are presenting with a group, plan out who is going to present which slides, and what each of you will say.
  - The best way to build confidence for a presentation is to practice. If there is a time limit, practice is the best way to ensure you are within it.

- Body Language
  - You should be calm, confident, and composed whilst presenting and your body language should reflect this.
  - Be aware of your posture and gestures. Maintain eye contact with the audience.
  - If you are presenting with a group, be attentive to what your fellow presenters are saying.
• Interaction
  ○ In most circumstances, it’s acceptable to interact with your audience. Do it!
    Questions directed to the audience or even just taking questions from the audience
    can help re-establish concentration if executed well.
  ○ Answer all questions professionally.
  ○ Don’t spend too much time on any given question asked by someone in the
    audience especially if the other audience members begin to look bored. A simple
    “I’d love to talk to you more about this after we’re done.” can get a presentation
    moving along again.
  ○ When fielding questions from the audience, you might be asked something you
    haven’t thought about or don’t know. It’s okay to admit this! You don’t need to
    know everything about your project and don’t need to consider every facet of a
    solution. Just be honest with your audience and don’t make things up.

Visual Aids
• Theme
  ○ Try to have a consistent theme throughout your presentation. This includes a
    single palette of colors, two fonts at most (preferably just one), and slide
    transitions (with as little animations as possible)
  ○ When thinking about your theme(s), consider the context of your presentation.
    This means keeping Comic Sans out of your presentations unless you’re giving
    one to the Annual Clown Conference.
  ○ If the company or group to which you are presenting, consider using their
    templates or colors.

• Color
  ○ Keep the color choices simple in presentations.
  ○ Remember that colors sometimes appear differently from projector to projector so
    be sure to arrive early or test out the projector beforehand to ensure the text color
    contrasts enough with the background color and that everything appears as you
    want it to.

• Slide Layout
  ○ Keep slide layouts simple and stay with the theme (colors, font, etc.) you have
    chosen unless you have a specific reason for deviating.
  ○ To alleviate monotony, try changing the layout of your slides. Mr. Reubold’s
    website and video referenced above are good sources of ideas for different
    layouts.
  ○ Stick to simple fonts and make text large enough so it can be easily read.

• Figures and Visualizations
  ○ Like regular text, make axis labels and titles large so that people can have an easy
    time reading them.
• Have a clear understanding of why you are inserting a visualization into your presentation. What idea or conclusion do you want your audience to take away? Since the audience won’t be able to look at your visualization for very long, you need to convey this information quickly.

Writing Abilities Expressed within Presentation:
The ApEc writing plan identifies a number of desired writing abilities for graduates of the program. Presentations require the following writing abilities emphasized by the ApEc department:

• Make a contribution and provide evidence of that contribution; summarize and synthesize relevant literature, background or data for support
• Address a target audience using the right technical level and apt levels of jargon
• Organize material logically (present a clear introductory statement or paragraph; identify and prioritize key issues, steps and concepts so that the writing flows nicely; highlight key findings)
• Represent data and content in visual modes. i.e., make appropriate choices about which data is represented in informative figures (not dropping in figures from source information); and make appropriate choices about the graphical presentation (type of chart, amount of annotation, etc.)
• Interpret quantitative, graphical data (demonstrate quantitative literacy)
• Present data objectively (vs. subjectively)
• Prepare effective presentations
• Apply economic concepts and business principles in analysis of problem; demonstrate an understanding of the context or environment of a problem or process
• Describe the processes or mechanism that lead or will lead to a result; describe the method of analysis, information gathered and the results obtained
• Use economic concepts and theory to understand situations, issues and outcomes
• Construct a thesis and counter-thesis in economic terms
• Recognize and describe patterns, likeness, groupings, similarities and differences; interpret and explain others' work
• Describe a research question and develop a regression model to answer it. Verbally interpret the regression results paying attention to both statistical and practical significance.
Problem Sets

Problem Sets are a writing genre prolific throughout the technical courses in ApEc. They enable students to practice algebraic processes and showcase their understanding of concepts presented in lectures.

Purpose:
In the ApEc curriculum, students will be introduced to a multitude of abstract concepts and ideas. To ensure that students are truly understanding the material covered in lectures and readings, Problem Sets will be assigned on a fairly regular basis, particularly in introductory courses. They usually include five to ten problems, some with multiple parts, and include problems pertinent to the previous lectures or assigned readings.

Audience:
Problem Sets are almost exclusively used in academia. Industry professionals will likely defer to another form of writing, e.g., a business report, as opposed to problems sets, even if an individual is completing a task or demonstrating knowledge for the very first time. Consequently the audience for Problem Sets is also academic in nature, namely professors, teachings assistants and graders.

Characteristics of Problem Sets:
- Identifying Information
  - Name, class number, homework #, anything else requested by professor
  - Unidentifiable homeworks may not receive credit.
- Numbered Problems and Organization
  - Numbers should correspond to those on the homework assignment or the book
  - Make it easy for the grader to find your answers. Homework problems should be presented in the order they are assigned, i.e., problem 2 should appear between problems 1 and 3.
  - Realize that the solutions you turn in might take several drafts. It isn’t a bad idea to solve the problems initially on scratch paper and then write them up neatly once you know how to solve them correctly. Alternatively, leave extra space between problems in case you need to expand on your answer.
- Answers
  - This is the most important part of the problem set.
  - All answers MUST include work of some kind that displays the student’s reasoning. The entire point of a problem set is to show your understanding of the material and your thought process.
  - The answer should be clearly identified.
  - Some problems may require complex logical arguments that are difficult to articulate. Trying writing draft solutions on scratch paper and copying the final answer to the page you will turn in to ensure a complete, well-reasoned argument
without the mess of eraser marks. Not only will this help you understand the problem, it will also help your reader understand your argument.

- Students should compose answers in complete sentences whenever possible.
- Compose answers in complete sentences.

- Graphics, Illustrations, Computer Code, and Excel Printouts
  - Depending on the problem, these might be included within an answer or in an appendix at the end.
  - Only computer code/printouts that are relevant to the problem

Writing Abilities Expressed within Problem Sets:
The ApEc writing plan identifies a number of desired writing abilities for graduates of the program. Problem Sets require the following writing abilities emphasized by the ApEc department:

- Address a target audience using the right technical level and apt levels of jargon
- Organize material logically (present a clear introductory statement or paragraph; identify and prioritize key issues, steps and concepts so that the writing flows nicely; highlight key findings)
- Represent data and content in visual modes. i.e., make appropriate choices about which data is represented in informative figures (not dropping in figures from source information); and make appropriate choices about the graphical presentation (type of chart, amount of annotation, etc.)
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- Recognize and describe patterns, likeness, groupings, similarities and differences; interpret and explain others' work
- Describe a research question and develop a regression model to answer it. Verbally interpret the regression results paying attention to both statistical and practical significance.
Research Papers

This genre is probably the one with which you are most familiar. While the papers you have previously written may have been loose in format, in academia there is general template you need to follow. This description will give you a rough idea of how research papers are written, but the best way to learn how write research papers is to read them...lots of them!

Purpose:
Research papers present original ideas/theses or they summarize the conclusions of a large number of similar research papers. Regardless, of the type, the aim of all of them is to further human knowledge, to answer a question that has been unresolved up until then. Piece of cake, right?

Audience:
In the classroom professors are usually the audience for research papers. Outside of the classroom, this person will usually be other researchers, students, and anyone else interested in the results of the research.

Characteristics of Research Papers:
  • Title
    o Titles should be extremely descriptive. Be sure to include the keywords of the paper in the title as this will help people find your paper when they’re searching through an endless database.
    o As long as everything you put in the title is relevant, don’t be afraid if it gets a little long.
  • Abstract
    o An abstract is a summary of the paper in 10-15 sentences.
    o Be terse and direct. You don’t have words to waste.
    o Focus on the most important aspects of your paper and what makes it stand apart from all the other papers written up to that point.
    o An abstract should include brief descriptions of your research question, method, results, and the implications of the results.
  • Introduction
    o This sets the stage for your research question.
    o Some of the points to cover in this section are
      ▪ the research question
      ▪ the motivation for the research (Why should we care about this topic?)
      ▪ a statement of contribution
      ▪ the methods
      ▪ results and their implications
- The introduction should explain what has been done in the prior literature to motivate the research. However, citations should not make up the bulk of this section. If the literature review is long it should be placed in a separate section.

- **Methods**
  - Describe here the data you use and methods used to analyze. Be sure to mention any assumptions you make about the structure of the data or the population from which it comes.
  - If you are building a mathematical model be sure to describe its variables and underlying assumptions in detail.

- **Results**
  - This section presents results from regression analyses or mathematical derivations. You should interpret all of your main results and discuss their implications.

- **(Discussion and) Conclusion**
  - This section is similar to the abstract, but it also incorporates what questions remain unanswered.
  - In addition, any “big picture” implications of results can be discussed in this section.
  - Include the limitations of the research presented and directions for future work.

- **Appendix**
  - Sometimes models that are particularly detailed require an appendix of their own so that the paper overall flows better by preventing the reader from getting bogged down in the nitty-gritty details unless they want to be.

- **Style**
  - The writing should be direct and use a level of detail appropriate to the intended audience
  - Eliminate extraneous words. Communicate your point in as few words as possible.

- **Figures and Visualizations**
  - Research papers will almost always include graphs, tables, or other visualizations. See the documentation on Graphics and Visualizations for more detailed information.
  - All tables and figures should be numbered. Use these numbers when referring to them in the text. All should have some reference in the text or they shouldn't be there. The first table referred to by the text should be Table 1, the second should be Table 2, etc. The same rule applies to figures.
Writing Abilities Expressed within Research Papers:
The ApEc writing plan identifies a number of desired writing abilities for graduates of the program. Research papers require the following writing abilities emphasized by the ApEc department:

- Make a contribution and provide evidence of that contribution; summarize and synthesize relevant literature, background or data for support
- Address a target audience using the right technical level and apt levels of jargon
- Organize material logically (present a clear introductory statement or paragraph; identify and prioritize key issues, steps and concepts so that the writing flows nicely; highlight key findings)
- Represent data and content in visual modes. i.e., make appropriate choices about which data is represented in informative figures (not dropping in figures from source information); and make appropriate choices about the graphical presentation (type of chart, amount of annotation, etc.)
- Interpret quantitative, graphical data (demonstrate quantitative literacy)
- Present data objectively (vs. subjectively)
- Apply economic concepts and business principles in analysis of problem; demonstrate an understanding of the context or environment of a problem or process
- Describe the processes or mechanism that lead or will lead to a result; describe the method of analysis, information gathered and the results obtained
- Use economic concepts and theory to understand situations, issues and outcomes
- Construct a thesis and counter-thesis in economic terms
- Recognize and describe patterns, likeness, groupings, similarities and differences; interpret and explain others' work
- Describe a research question and develop a regression model to answer it. Verbally interpret the regression results paying attention to both statistical and practical significance.
- Engage in constructive writing process; give and receive feedback about their writing; constructively analyze and revise their own work; accept feedback and criticism willingly
April 29, 2019

To: Metin Cakir, Department of Applied Economics
From: Jessica Kuecker Grotjohn, Office of Undergraduate Education
Subject: Decision regarding WEC funding proposal

Thank you for providing the Office of Undergraduate Education with a 3rd Edition Writing Plan. On behalf of Applied Economics, you have requested the following funding to support that plan’s implementation.

<table>
<thead>
<tr>
<th>Applied Economics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2019  Research Assistant Support</td>
<td>$9,164.00</td>
</tr>
<tr>
<td>Spring 2020 Research Assistant Support</td>
<td>$9,164.00</td>
</tr>
<tr>
<td>Fall 2020  Research Assistant Support</td>
<td>$6,645.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$24,973.00</td>
</tr>
</tbody>
</table>

The items highlighted in yellow above have been approved by the Office of Undergraduate Education, for a total of $24,973. These funds will be transferred in full during the FY20 to your department’s EFS account string: 1000-11033-20043-4984871.

We wish the department every success in this ongoing effort to support students and faculty.

CC: Dan Emery, Pamela Flash, Matt Luskey, Bryan Mosher, Jennifer Reckner, Leslie Schiff, Heidi Solomonson, Jessica Kuecker Grotjohn, Reagan Mock-Nelson, Melissa Ilse