

Writing in the Majors Plan for Building Science
 Comments from the University Writing Committee
 February 17, 2017

Criterion	Comments, Questions, Suggestions
Principles 1 & 2: Provides opportunities for students to practice the kinds of communication (oral and written) most useful to the major	Yes. Program describes an exemplary process for considering with faculty and potential employers the kinds of communication activities graduates are most likely to encounter. These are then represented in the curriculum map that details specific outcomes assigned to each course and the kinds of writing assignments that are possible (and likely) within that course. This map should provide any faculty who is assigned to teach the course the information they need to craft assignments that achieve the outcomes even if they decide to venture away from the examples provided.
Principle 3: Provides opportunities for students to communicate to different purposes and audiences	Yes. Though the curriculum map does not include audience or purpose for each possible assignment, the document makes it clear that audience and purpose is being attended to and that students will encounter different audiences and purposes as they achieve the specific learning outcomes in these courses.
Principle 4: Provides feedback and opportunities for revision	This is an area of weakness, but we understand that the department is aware of that and has already taken steps to work with the Director of University Writing on this issue and developing rubrics.
Principle 5: Has an assessment process directed towards continuous improvement	We're pleased to see that the department's assessment has already helped them recognize the need to shift the required course in Construction Communication to the first semester students are in the program. While it makes sense to assess communication skills at the end of this course, we believe the department will also want to find a way to determine the level of skills students have as they graduate. We understand that the department has already taken steps to work with both the Director of University Writing and the Office of Assessment on this issue.
Other comments:	Because we see the department's serious engagement with curriculum, student learning, and assessment, we are willing to approve this revised writing plan for Building Science that matches their curriculum revisions. Since we think others will find the format and details you included in this plan a helpful model, we appreciate your willingness to let us post it on the Office of University Writing's website.

Plan is approved

Please submit an Implementation Report by February 2019

McWhorter School of Building Science
Writing in the Building Science Curriculum Plan – New Curriculum Effective Fall 2017

1. Introduction / Accreditation Requirements

The McWhorter School of Building Science, at full capacity, admits 120 students per year into the professional program (junior year). The curriculum prepares students to actively participate in the construction industry upon graduation - working for general contractors, subcontractors or others involved in the construction process. The School has been involved in a structured curriculum review process for the past few years which will culminate in a revised curriculum being implemented in the fall of 2017.

The undergraduate degree in Building Science (BSCI) is accredited by the American Council for Construction Education (ACCE). The requirements regarding writing in the curriculum are set out in Standard 103 – *Standards and Criteria for Accreditation of Postsecondary Construction Education Degree Programs*. The previous accreditation standards required a minimum of 2 semester hours of written communication and 8 hours combined oral and written communication and an additional requirement to integrate oral presentations into the BSCI classes:

Oral presentation, technical writing, and/or business writing must be integrated into at least 33% of the total number of Construction and Construction Science courses. This integration is to be documented by the same means as other course content in these categories.

The new ACCE standards have shifted from what the ACCE refers to as a prescriptive approach to a student learning outcomes (SLO) approach. The ACCE prescriptive approach required programs to meet certain credit hours in a variety of categories. The new standards require us to demonstrate that graduates from our program have met 20 Student Learning Outcomes. There is still a minimum General Education requirement that requires our students to take 6 credit hours of communications related subject matter. There is one SLO that relates to writing:

Upon graduation from an accredited ACCE Bachelor Degree program, graduates shall be able to:

Create written communications appropriate to the construction discipline.

- 2. What kinds of writing do your students need to be able to do in order to be successful either as students, in their future careers or to enter a graduate program in the field?**

During the spring semester of 2010 members of the industry advisory council were asked to provide examples of the type of writing graduates of the Building Science program would be expected to produce during their early careers. Below is a summary of the responses:

- a. General Business Letters/Memo's
 - i. Sub-contractors
 - ii. Thank you letters
 - iii. Stating/Requesting information
 - iv. Cover letters
 - v. Bid Solicitation
- b. Email correspondence
 - i. Etiquette
 - ii. Best practice
- c. Meeting minutes
 - i. Facts
 - ii. Discussion
 - iii. Action
- d. Request for Information/Qualification
- e. Response to Request for Proposal/Qualification
- f. Contract Change Orders
- g. Daily/Weekly/Monthly & Other Reports

In preparation for a major curriculum review in response to the new ACCE accreditation standards, the school held two industry curriculum review workshops. Both were held in July 2015, one in Atlanta, GA and another in Birmingham, AL. Part of each workshop involved identifying "*communications appropriate to the construction discipline*". Below are the types of communications identified at these workshops:

- Meeting minutes,
- Monthly project reports (internal and external),
- Change Orders,
- Request for Information (RFI),
- E-mail,
- Bid Invitation,
- Scope documents or subcontractor scope of work,
- Clarifications to pricing,
- Notice letters to subs,
- Value analysis/engineering report

3. Proposed Writing in the BSCI Curriculum

Following a comprehensive curriculum review conducted during 2015-17, the following classes incorporating course learning outcomes related to the ACCE SLO *Create written communications appropriate to the construction discipline* were identified together with possible writing assignments. BSCI 3200 (Construction Communication) is a course that has been offered as an elective. It is now a required course taken by students in their first semester of the professional program. We found that students were often taking the elective course in their final semester at Auburn resulting in the subject matter having little impact on the student's writing performance in other classes. By moving this to the first semester of their junior year it is hoped that we will observe a higher skill level of writing in courses taken later in the curriculum. BSCI 3200, as a course dedicated to both oral and written processes, provides a platform from which the instructor can provide feedback to the students, allowing the student an opportunity to correct their work following an initial assessment.

Class	Course Learning Outcomes	Possible Writing Assignments
BSCI 2200 Construction Documents	Identify & Interpret basic terminology used in the construction industry	
BSCI 2300 Construction Methods & Materials	Recognize Terminology of Construction Materials, Methods & Equipment	Division Dictionary is a field exercise that involves groups of 3 students taking photographs of buildings to identify construction materials, correctly define them using appropriate technology and classify them in the correct Construction Specifications Institute (CSI) division.
BSCI 3200 Construction Communication	<p>Apply effective business communication fundamentals in the student's oral and written communication</p> <p>Apprise the audience in light of the project context and adapt the messaging appropriate for the audience and the project environment</p> <p>Develop effective communication methods appropriate to the</p>	<p><i>Written Presentations / Documents</i></p> <p>Students will prepare formal documents that mirror documents produced in the construction industry. These may include reports, memos, RFIs, change order proposals, and scope statements. The instructor will provide the student with an initial assessment of work</p>

	<p>construction industry, specifically addressing areas of technical, contractual, project management and leadership communication</p> <p>Apply communication methods for identifying and solving construction related problems and mitigating execution risk (Find problems – Solve problem) using communication tools for breaking problem down and seeking root cause</p> <p>Describe proper written communication to develop and administer a contract (scoping statements, clarification of pricing, bid invitation / RFI's, change orders, notice letters to subs, contract letters) and demonstrate project / construction reporting structures (weekly progress, monthly reports, meeting minutes)</p> <p>Develop effective rules of engagement for developing meeting agendas and conduct effective meetings to produce desired outcome (daily production meetings, weekly progress meetings, safety meetings, subcontractor meetings, group meetings, task team meetings)</p> <p>Use visual aids in presentations, meetings and reports as an effective communication tool</p> <p>Use effective communication methods in interfacing with project stakeholders and outline strategies for negotiating and conflict resolution</p>	<p>submitted, allowing the student an opportunity to revise their work.</p> <p><i>Case Study</i> Students will review a case study of construction based on actual conditions of a construction project. Students will consider specific questions posed by the instructor relevant to the case study. Students will be forced to consider the impact of their decisions in the context of incomplete, sometimes contradictory, and changing requirements. The results of their work will be conveyed using an appropriate communication means.</p>
<p>BSCI 3600 Construction Estimating</p>	<p>Create written communication appropriate to construction estimating</p>	<p><i>Group Presentation</i> Students will be grouped at the beginning of the semester (2-3 students per group) and tasked with developing a</p>

		<p>presentation regarding estimating as it pertains to one of the CSI divisions covered in the course. The groups will also present their QTO and pricing for their assigned CSI division. Grades for this assignment will be given as a group, not individually.</p>
<p>BSCI 3650 Preconstruction and Project Management</p>	<p>Produce a project controls plan that takes into account the management of risk, quality, profitability, ethics and service to a client</p> <p>Prepare a presentation of your project plan - adapting it to the audience's level of understanding, all while arguing/defending the details contained in your plan</p>	<p>Project #2: An individual project involving the submission of a written Project Controls Plan that addresses the mitigation of risk in a well thought out framework of documentation</p>
<p>BSCI 4700 Mechanical Systems in Buildings</p>	<p>Write and format a quotation letter including scope of work based on details from a plumbing estimate</p> <p>Prepare and present (team or individually) a sustainability solution to specified mechanical problem.</p>	
<p>BSCI 4360 Construction Field Lab</p>	<p>Write a proposal for a construction service project</p>	<p>Written Proposal, Estimate, Schedule, Safety Plan, & Quality Control Plan</p> <p><i>Communication Reports</i> Final Presentation including written and visual documentation of the construction of the service learning project with reflection on team's evaluation of process</p>
<p>BSCI 4500 Information and Communication Technology for Construction (CIT) - 2</p>	<p>Work in a team evaluate new ICT applications suitable for construction. Student must communicate with team members, with instructor and with class members, using the computer as a</p>	<p><i>Final Project</i> This group project is an exercise that wraps-up all the software program that students have learned in this class. It also require each</p>

	<p>demonstration, teaching and learning tools</p> <p>Prepare a group-based course final project and present to the entire class through an oral presentation</p>	<p>student group to present their solution to the whole class through an oral presentation.</p>
<p>BSCI 4850 Construction Law and Risk Management</p>	<p>Interpret and analyze common legal terminology</p> <p>Evaluate typical contract documents and their functions</p>	<p>Three written exercises will be given. The exercises may be done individually or in groups of two (a two-person team is recommended). The exercises are aimed at allowing you to demonstrate your ability to perform basic legal research regarding a given factual situation. The students' written report will consist of the factual situation, an analysis of the laws governing the particular situation and an evaluation of the likely outcome.</p>

4. Assessment Plan for Writing in the Curriculum

Direct and indirect measures are used to gather information on how students are meeting the ACCE SLO *Create written communications appropriate to the construction discipline*

1. One direct measure – evaluation of student’s performance in writing assignments in BSCI 3200 Construction Communications. The faculty believes this is the best place to evaluate written communication for the following reasons:
 - The focus of the class is on communication in the construction industry, both oral and written
 - The class has the most (eight) course learning outcomes related to written communication
 - The class covers most of the written communications covered in item 2 above
 - During the class the student’s work will undergo an initial assessment, allowing the student an opportunity to revise
 - Students traditionally participate in industry internships following this class and will be required to create some of the written documents they have covered in the class

Written assignments will use an assessment rubric that measures student performance across the following criteria:

- Context of and Purpose for Writing
- Content Development
- Disciplinary Conventions
- Sources and Evidence
- Control of Syntax and Mechanics

Results from the assessment rubrics will be collated and reported to the AU Director of Academic Assessment on an annual basis.

2. One indirect measure:

An Exit Survey in which students are asked how strongly they agree (on a five-point scale) that they have met the learning outcome.

In preparation for the transition to the new ACCE Standards the school has been collecting data since Fall 2014. The individual responses and average response to the exit survey question are tabulated below.

On a scale of 1 to 5, rate how strongly you agree or disagree that you have achieved the following outcome - Create written communications appropriate to the construction discipline

Semester	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Average
Fall 2014 (8 Reporting)	0	0	0	4	4	4.50
Spring 2015 (28 Reporting)	0	0	0	9	19	4.68
Summer 2015 (21 Reporting)	0	0	0	4	17	4.81
Fall 2015 (20 Reporting)	0	0	4	9	7	4.15
Spring 2016 (21 Reporting)	0	0	1	7	13	4.57
Summer 2016 (23 Reporting)	0	0	2	11	11	4.38