Building Construction

Quality Assessment Plan

The Building Construction Quality Assessment Plan is proposed to review and assess the following:

1.0 Curriculum
2.0 Strategic Plan

The assessment plan is based on collecting and analyzing data from faculty, graduating seniors, alumni (across multiple degrees/levels of separation), advisory committee members, employers (that are regular participants to our career fair) and other industry partners.

**1.0 Curriculum Review:**
The objective of this review and assessment is to evaluate our organization, adequacy and completeness of our courses and effectiveness of our academic program so that we can continuously make modifications and adjustments to improve and meet the changing needs of academia and our construction industry. Data will be collected from individual faculty, graduating seniors, industry focus groups and recent alumni. Data will be used to plot trends and determine current strengths and weaknesses.

**1.1 Faculty Review**
Faculty reflections on courses taught (what worked/what did not) will be discussed and shared during retreats on an annual basis to document lessons learned and best practices in teaching the various courses in our curriculum. Issues related to teaching styles, impact of class size, course objectives and how they relate to minimum requirements (e.g. ACCE matrix), relevance of pre-requisites and adequate student knowledge etc. will be among the issues addressed.

*Frequency: once per year*
*Forms: N/A*

**1.2 Department Review**
Discussion during meetings and retreats as well as feedback from graduating seniors collected through exit survey (unstructured) and exit interviews (structured) using small breakout groups will be used. In addition, students are encouraged to visit with the Department Head to express their opinion. Summary data from Virginia Tech Academic Assessment Survey (Office of Academic Assessment) will also be reviewed and analyzed.
All feedback will be collected and documented to determine areas of improvements.

*Frequency: once per semester*
*Forms: draft example attached*

### 1.3 Industry Review
Industry experts, drawn from alumni, employers and other industry partners, will be invited to form Focus Groups (FGs). Each panel or focus group will have expertise in one or more of the topical areas covered by our courses (e.g. sustainability, BIM, safety, project management, etc.). FGs will be provided with course material for their review. Round-table discussions will be organized to solicit input and feedback on courses and program to help identify strengths and weaknesses. Short presentations from faculty will also be organized to bring each FG up to speed on course objectives and content covered prior to the round-table discussion. Comments and feedback will be collected and documented to determine areas of improvements.

*Frequency: 1-2 topics per year (repeated every 4-5 years for course/each topical area.)*
*Forms:*

The objective of the following input is to measure the effectiveness of our curriculum by how successful and prepared our graduates are in the real world.

### 1.4 Recent Alumni Input
Surveys will be used to solicit input from recent alumni regarding our curriculum and how it supports them in their current employment responsibilities. Two groups will be targeted, 2-5 year graduates, and 5-10 year graduates. The objective is to gauge our curriculum effectiveness short-term and long-term.

*Frequency: every two years*
*Forms:*

### 1.5 Employer Input
Input from employers during the career fair will also be solicited to identify how our graduates compare to what employers are looking for and their level of preparedness.

*Frequency: every two years*
*Forms:*

All results will be compiled and discussed at faculty meetings/retreats and shared with the BC advisory committee. Course, curriculum and program modifications will be discussed and assigned to faculty (course modifications) or faculty task groups (curriculum/program modifications). Figure 1 summarizes the data input and output process for review and assessment of the curriculum.
Recent Curriculum Changes: Through informal assessment, several changes to our curriculum have already occurred since our last accreditation cycle:

1- Revise and modify pre-requisites/co-requisite requirements and adopt a pre-requisite enforcement policy.
2- Adopt C- policy.
3- Modify the objectives and content of BC2114 - IT in Construction and Design to focus on BIM technology and applications.
4- Develop a new course BC2984 - Construction Culture: Culture & Society with a focus on sustainability, ethics and safety.
5- Adopt and enforce a Plan of Study policy for undergraduates.
6- Develop an Undergraduate Advising Manual and an Undergraduate Student Guidebook. Content from both manuals have been posted online.
7- Website: the department’s website www.bc.vt.edu was re-designed to include various program and curriculum information for our students and public. The website is also updated more frequently (once per week).
8- A new position (Academic Coordinator) was created and a staff member was hired (fall 2010) to support academic-related issues.
9- New initiatives:
   • Pathway to Success in Building Construction: This initiative is intended to address challenges facing incoming freshmen by developing modules that will provide improved First Year Experience (FYE). Modules will be developed and implemented beginning fall 2011.

   • Soft Skills: This initiative is intended to address the integration of non-technical or soft skills (including communication skills, team building, dealing with conflict, etc.) in the Building Construction curriculum. The project (Developing a Framework for Teaching Soft Skills in the Building Construction Curriculum) is supported by an industry development gift and implementation will begin spring 2012.

2.0 Strategic Plan:
The objective of this review and assessment is to insure that our 3 year, 5 year, and 10 year goals and objectives set to support our vision and mission are achievable and to allow for adjustments to stay on target. Details of the strategic plan are discussed further. Figure 2 depicts a framework of the proposed Quality Assessment Plan.
Figure-1: Input/output for Curriculum Review and Assessment

Data and Information

- Faculty Review
- Department Review
- Industry Review
- Recent Alumni Input
- Employer Input

Summarize and Analyze Needed Modifications and Adjustments

Discuss and Identify Actions Needed

Implement Modifications and Adjustments
- Faculty (Course modifications)
- Task Groups (Curriculum/Program Modifications)
Figure 2: Framework for Quality Assessment Plan

<table>
<thead>
<tr>
<th>Review and Assessment Type</th>
<th>Frequency of Assessment</th>
<th>Task Description</th>
<th>Expected Outcome</th>
<th>Source of Feedback</th>
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| 1.1 Individual Faculty Review | Once per year (Fall/Spring) | 1- Review student evaluations/feedback  
2- Reflect on course organization  
3- Review pre-requisite requirements based on student pre-knowledge  
4- Document lessons learned and best practices | 1- Revise course organization and content  
2- Improve teaching style(s) impact of class size  
3- Evaluate impact of pre-requisites/co-requisites, class size, etc.  
4- Share lessons learned and best practices | Individual Reflection (what worked/what did not) |
| 1.2 Department Review (All Faculty) | Once per year (different courses each year) | 1- Present, discuss and review course syllabi and topical content  
2- Review topical content as it relates to academic requirements (e.g. defined course objectives, ACCE Matrix, etc.)  
3- Pre-requisite/co-requisite knowledge evaluation  
4- Across the curriculum review  
5- SWOT Analysis | 1- Identify redundancy (Overlap Reduction)  
2- Improve organization and completeness of BC courses  
3- Update Pre/co-requisites and minimum grade requirements  
4- Update curriculum: New courses/eliminate courses/minor/major  
6- Update Syllabi/curriculum  
7- Improvement plan | Department Meetings and Retreats |
| 1.3 Industry Review | 1-2 topical area/course per year (4-5 year cycle for each course/topical content) | 1- Short presentations by faculty to focus groups  
2- Review course:  
   a. Measurable Learning Objectives (MLO)  
   b. Topical content | 1- Listing of What’s new/What’s missing  
2- Does the content serve the graduate? The industry needs, etc.  
3- Identify current state of the art and industry needs. | Exit Interviews  
VT Academic Assessment Survey  
Capstone Project (BC4444) |
| 1.4 Recent Alumni Input | Every two years | Review graduate’s preparedness by surveying recent (2-5 years) and past graduates (5-10 years) | 1- Identify student level of competency and preparedness  
2- Identify strengths/deficiencies in the curriculum  
3- Track achievements of graduates  
4- Identify relevance of course content and curriculum related to:  
   a. Support current job responsibilities  
   b. Develop leadership qualities  
5- Impact of extra-curricular activities related to program (e.g. team competitions, student chapter activities, etc.) | Focus Groups (FGs)  
Alumni Survey  
Employers’ Survey |
| 1.5 Employer Input | Once per year | Review graduate’s preparedness by surveying employers during career fair | 1- Insure that our 3 year, 5 year and 10 year goals are achievable  
2- Maintain/grow relationship with Industry  
3- Continuing Education Programs | Department meetings and retreats |
| 2.0 Strategic Plan | Every 2 years (or as appropriate) | 1- Reflection/Analysis/Strategy | | |

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<thead>
<tr>
<th>Source of Feedback</th>
<th>Faculty</th>
<th>Students</th>
<th>Seniors</th>
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| Individual Reflection (what worked/what did not) | Course Evaluations | Exit Interviews  
VT Academic Assessment Survey  
Capstone Project (BC4444) | Exit Surveys  
Focus Groups (FGs)  
Alumni Survey  
Employers’ Survey | Department Meetings and Retreats  
Advisory Committee Feedback |