

Program Assessment Plan and Schedule for Fall 2013 – Spring 2014

College: Technology

Program: Construction Technology

<p>#1: <u>MISSION STATEMENT & PROGRAM</u> OUTCOMES: Due September 13: Submit to Division Liaison</p> <p>ATTN: Has your program Mission Statement and/or Program Learning Outcomes been modified from the previous year? Place an 'x' by YES or NO.</p> <p>YES:</p> <p>NO: X</p>	<p>Mission Statement The mission of the Vincennes University Construction Technology program is to prepare students from diverse backgrounds for employment and/or the pursuit of advanced degrees in the Construction Technology related fields. Students will be able to apply concepts, terminology, building codes, calculations, and apply residential construction techniques for the construction related fields.</p> <p>Program Learning Outcomes Students who complete course work in the Construction Technology program will be able to:</p> <ul style="list-style-type: none"> • describe the construction field using proper terminology and concepts. • apply the Indiana Residential Code, 2003 Edition, to construction activities. • organize construction processes using proper construction calculations. • construct projects using appropriate techniques and calculations. • value a quality construction project.
<p>#2: <u>LEARNING TO BE ASSESSED:</u> Due September 13: Submit to Program Faculty, College Dean, College Liaison, and Amy Hatton.</p>	<p><u>Outcome 1: Construct projects using appropriate techniques and calculations.</u></p> <p>Learning Skill/Knowledge to be Assessed: Students will be asked to construct a stair stringer. All first year majors enrolled in CNST 105 will be required to do the assessment activity. Students enrolled in CNST 105 will be benchmarked or compared to last year's freshman class enrolled in CNST 105 in the fall term. In addition, we also want to compare our Freshman group scores to our Senior scores that will be administered the NOCTI assessment test in the first of May of 2014. These comparisons will include the assessment areas of stair stringer construction and the common rafter project.</p> <p>Why is this Assessment Significant? Students must be able to master this fundamental skill in order to make stairs code compliant.</p> <p>Faculty Collaborators: Richard Welage and K. Brian Lindsey</p> <p><u>Outcome 2: Apply the Indiana Residential Code, 2003 Edition, to construction activities.</u></p> <p>Learning Skill/Knowledge to be Assessed: Students will be assessed in the area of the Building Planning session, Chapter 3 of the IRC. The assessment activity will consist of a number of building related scenarios in which the student must interpret whether or not the scenario is code compliant or non-code compliant. Students will be asked to document the code reference as to whether the situation is code compliant or non-code compliant.</p>

	<p>Why is this Assessment Significant? This project was chosen because of the importance of building codes and how they apply to building construction within the State of Indiana. Faculty Collaborators: Richard Welage and K. Brian Lindsey</p> <p><u>Outcome 3: Organize construction processes using proper construction calculations.</u></p> <p>Learning Skill/Knowledge to be Assessed: Students will be assessed in CNST 255 Construction Material Take-Off. The assessment activity will consist of a materials estimating assignment. All second year majors will participate beginning in the Fall of 2013.</p> <p>Why is this Assessment Significant? This project was chosen because of the importance of accurate material estimating and how that can affect profitability in the workplace. Faculty Collaborators: Bob Weiss and K. Brian Lindsey</p>
<p>#3: PROJECT DETAILS: Due September 13: Submit to Program Faculty, College Dean, College Liaison, and Amy Hatton.</p>	<p><u>Outcome 1: Construct projects using appropriate techniques and calculations.</u></p> <p>Project A Title: Stair Stringer Project Is this the first, second or third year for this project? This is the third year for this assessment activity. Brief Project Description: Students will be asked to construct a stair stringer. Assessment Tool(s)Used: A stair rubric has been developed for this assessment activity. Success Standard: 80% of the students will achieve a level of “Good” on each of the four assessed areas. These include riser calculation, tread calculation, application of stair calculations, and carriage deductions. Course(s): CNST 105, <i>Framing</i> Faculty Assessing Course(s) & Campus: Richard Welage and K. Brian Lindsey at the Vincennes Campus Sample Size: 23 students will be assessed. Will the tool(s) be used in the fall? spring? Both semesters? Fall 2013 Faculty Responsible for Oversight/Compiling Student Results: Richard Welage and K. Brian Lindsey</p> <p>Project B Title: Common Rafter Project Is this the first, second or third year for this project? This is the second year for this project. Brief Project Description: Students will be required to calculate and construct a common rafter given a set of parameters. Assessment Tool(s)Used: A rubric has been developed for this activity. Success Standard: 80% of the students will achieve a level of “Good” on each of the three assessed areas. These include rafter length, overhang calculation, and depth of birdsmouth. Course(s): CNST 105, <i>Framing</i> Faculty Assessing Course(s) & Campus: Richard Welage and K. Brian Lindsey at the Vincennes Campus</p>

	<p>Sample Size: 23 students will be assessed. Will the tool(s) be used in the fall? spring? Both semesters? Fall 2013 Faculty Responsible for Oversight/Compiling Student Results: Richard Welage and K. Brian Lindsey</p> <p><u>Outcome 2: Apply the Indiana Residential Code, 2003 Edition, to construction activities.</u></p> <p>Project A Title: Building Planning session, Chapter 3 of the IRC Is this the first, second or third year for this project? This is the third year for this assessment activity. Brief Project Description: A critical thinking final examination will be administered. Assessment Tool(s)Used: Final exam questions Success Standard: Students will average 80% on each question. Course(s): CNST 261, <i>Indiana Residential Code for One and Two Family Dwellings</i> Faculty Assessing Course(s) & Campus: Richard Welage and K. Brian Lindsey at the Vincennes Campus Sample Size: 11 students will be assessed. Will the tool(s) be used in the fall? spring? Both semesters? Fall 2013 Faculty Responsible for Oversight/Compiling Student Results: Richard Welage and K. Brian Lindsey</p> <p>Project B Title: Survey on the Building Planning Session on the Indiana Residential Code for One and Two Family Dwellings Is this the first, second or third year for this project? This is the third year for this assessment activity. Brief Project Description: Students are given 25 code applications questions pertaining to the IRC 2003 Building Planning Session. The students can respond with one of four responses: Strongly Agree, Agree, Strongly Disagree, and Disagree. Assessment Tool(s)Used: A rubric has been developed for this assessment activity. Success Standard: 80% of the students will give the response of “agree” on the survey. Course(s): CNST 261, <i>Indiana Residential One and Two Family Dwelling Code</i> Faculty Assessing Course(s) & Campus: Richard Welage and K. Brian Lindsey at the Vincennes Campus Sample Size: 11 students will be assessed. Will the tool(s) be used in the fall? spring? Both semesters? Fall 2013 Faculty Responsible for Oversight/Compiling Student Results: Richard Welage and K. Brian Lindsey</p> <p><u>Outcome 3: Organize construction processes using proper construction calculations.</u></p> <p>Project A Title: Residential Building Material Estimating Assignment Is this the first, second or third year for this project? First year Brief Project Description: Students will be given an estimating assignment and will be evaluated by the accuracy of the estimate.</p>
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	<p>Assessment Tool(s)Used: A rubric has been developed for this activity. Success Standard: 75% of students will score in the “correct” or “acceptable” level in all categories of the rubric. Course(s): CNST 255, <i>Construction Material Take-Off</i> Faculty Assessing Course(s) & Campus: Bob Weiss and K. Brian Lindsey at the Vincennes Campus Sample Size: 15 second year students Will the tool(s) be used in the fall? spring? Both semesters? Fall only Faculty Responsible for Oversight/Compiling Student Results: Bob Weiss and K. Brian Lindsey</p>
<p>#4: ASSESSMENT TOOLS & DATA: FALL ASSESSMENTS - Due December 18, SPRING ASSESSMENTS - Due May 14: Submit to Program Faculty, College Dean, College Liaison, and Amy Hatton.</p>	<p>Outcome 1, Project A Submissions: <i>Stair Stringer Rubric, lab test, student data</i></p> <p>Outcome 1, Project B Submissions: <i>Common Rafter Rubric, lab test, student data</i></p> <p>Outcome 2, Project A Submissions: <i>IRC Final Exam, student data</i></p> <p>Outcome 2, Project B Submissions: <i>Residential Code Survey, student data</i></p> <p>Outcome 3, Project A Submissions: <i>Material Estimating Rubric, student data</i></p>
<p>#5: DATA ANALYSIS: FALL ASSESSMENTS – Due February 7, SPRING ASSESSMENTS – Due May 23: Submit to Program Faculty, College Dean, College Liaison, and Amy Hatton.</p>	<p><u>Outcome 1: Construct projects using appropriate techniques and calculations.</u></p> <p>Project A: Stair Stringer Project <u>Success Standard:</u> 80% of the students will achieve a level of “Good” on each of the four assessed areas. These include riser calculation, tread calculation, application of stair calculations, and carriage deductions.</p> <p><u>Data Indicating Strengths:</u> 23 students participated in the CNST 105 assessment test administered this 2013 fall term. The stair rubric has four assessment areas: Riser Calculation, Tread Calculation, Application of Stair Calculations, and Carriage deductions.</p> <ul style="list-style-type: none"> • Of the 23 students assessed in the Riser Calculation area, 20 students were in the “Excellent” range of within 1/16 of an inch, and 3 students fell in the “Good” range of within 1/16 to 1/8 of an inch. In other words, 86.9% were in the range of “Excellent”, and 13.1% of the students fell within the “Good” range. This year we were able to obtain the benchmark in this specific area. Last year’s students scored a 79% as a group in the stair stringer project; however, this year we are breaking down all the four assessed areas. Therefore, the data will not be necessarily reflective to last year’s scores since we grouped all the specific areas together to obtain our percentage. • In the Tread Calculation area, 18 students scored in the “Excellent” area, two students scored in the “Average” area, one student scored in the “Poor” area, one student scored in the “Unacceptable”

	<p>area, and one student did not complete the assessment in this area. 78.26% scored in the area of “Excellent”. This score exceeds the “Good” assessed area, and we are very close in obtaining an 80% in the area of “Excellent” pertaining to tread calculation. The remaining student scores are much more stratified. Two students (8.69%) scored in the “Average” area, 1 student (4.35%) scored in the “Poor” area, 1 student (4.35%) scored in the “Unacceptable” area, and 1 student (4.35%) did not complete this assessed area.</p> <ul style="list-style-type: none"> • In the assessed area of Carriage deductions the scores were also quite interesting. 13 students (56.5%) scored within the “Excellent” area, 5 students (21.74%) scored in the “Good”, 4 students (17.39%) scored in the “Unacceptable” area, and 1 student (4.35%) did not complete the exercise. In this assessed area, if we take the students in the “Excellent” area and the students in the “Good” area, then we are very close in obtaining our benchmark. Given these two areas, the students scored a 78.24%, so in this particular area the students as a whole seem to have a pretty good grasp. In speaking with the instructor who administered the assessment test, a number of the students neglected to shorten the first riser accordingly by neglecting to remove the tread thickness from the bottom riser. Therefore, the four students who scored in the “Unacceptable” area neglected to shorten the first riser at the bottom of the stringer, making the first riser or step too tall. This obviously would exceed 3/8 of an inch and also make the stringer non-code compliant. <p>Last spring we administered the NOCTI Performance Exam in Carpentry to our senior class. The NOCTI Analysis of Scores shows that our students, as a group, scored 85.2%. The National score in this area is 78.4%. In comparing our students to the national average, we scored 6.8% more than the National score. Not bad. We do tend to score above the national benchmarks from year to year (see last year’s assessment plan). Last year our students scored 83.7% in stair stringer area and it was 5.7% above the national average for that year. Last year the National average was 78%. It should also be noted that last year’s senior class scored higher than the seniors in the year preceding them.</p> <p><u>Data Indicating Weaknesses:</u> Scores were also quite diverse in the rubric area of Application of Stair Deductions. 11 students (47.82%) scored in the “Excellent” area, 5 students (21.74%) scored in the “Good” area, 6 students (26.09%) scored in the “Unacceptable” area, and 1 student (4.35%) did not complete this area. This assessed area is where our student scores become more diverse, and the rubric continues to show that our students consistently score lower in the rubric area of Application of stair Calculations, thus making this the greatest weakness. It is in this area that the student must apply the knowledge learned. Even though the student can calculate riser height and tread depth given a scenario, they must apply the knowledge to the framing member and use the framing square accordingly. In addition, the stair stringer is evaluated once the framing member has been cut. Therefore, as in last year’s summary, and not trying to ride a dead horse, we must continue to stress the importance of accuracy in marking the stair stringers accordingly, and we must pursue accurately cutting of the stair stringer. Students must be able to apply the knowledge learned in a</p>
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physical application of using the framing square and the circular saw. They also need to remember when marking the stair stringer that the first riser at the bottom of the stair needs to be shortened the tread thickness that is going to be used on the stringer. If they do not do this, then the first step will always be taller than the remaining risers. It is interesting to note that the students do somehow remember that they must also shorten the tread at the top of the stringer the thickness of the finish riser. To me it is odd that if they can remember this required task, that they should be able to remember the task of shortening the riser at the bottom of the stringer the tread thickness that is going to be used.

Data Indicating Trends: In reviewing last year's plan that is currently housed online on the Improve VU website, it shows that 21% of students (4 of the 19 students assessed) in the Fall of 2012-2013 in the area of Application of Stair Deductions failed to obtain our established benchmark for that given year. It is interesting to note that this year 26.09% of the students scored in the "unacceptable" area in this same assessed area. Therefore, it is obvious that students continue to make the same mistakes from one year to the next, especially in this assessed area. The rubric shows the area of weakness of our students. We continue to stress for excellence in the areas of stair framing and we know that our rubric is very restrictive in regards to our specific tolerances; however, we are working toward the pursuit of carpentry perfection!

Project B: Common Rafter Project

Success Standard: 80% of the students will achieve a level of "Good" on each of the three assessed areas. These include rafter length, overhang calculation, and depth of bird's mouth.

Data Indicating Strengths: 23 students were assessed on the rafter assessment activity.

- Of the 23 students assessed in the Rafter Length category, 10 students (52.17%) scored in the "Excellent" area.
- In the Overhang Calculation area, 8 students (34.75%) scored in the "Excellent" area, one student (4.36%) scored in the "Extremely Good" area within 1/16 of an inch, and one student (4.36%) scored in the "Good" area within 1/8 of an inch.
- The last assessment category in this activity is the Depth of Birds mouth. In this category we had 10 students (43.47%) score in the "Excellent" area, 1 student (4.36%) in the "Extremely Good" area within 1/16 of an inch, and 4 students (17.38%) in the "Good" area within 1/8 of an inch. Although the assessment shows a diverse number of scores, I think we can make a somewhat positive note. Given the three grading areas of Excellent, Extremely good, and Good, our students collectively scored a 65.21. Although we did not meet our established benchmark we still have a good number of students obtaining a good quality product given our stringent established requirements of our rubric.

Last spring we once again administered the NOCTI assessment test. Last year's seniors scored an 83.6% on

the Rafter Framing portion of the NOCTI exam. That was 5.1% higher than the National average of 78.5% for NOCTI in that given area. It is also worth noting that last year's senior class scored higher than the senior class before them. Seniors in the Spring of 2012 scored a 74.9% on the NOCTI exam.

Data Indicating Weaknesses: We have a number of students who placed within the scoring area of "Unacceptable." These weaknesses are basically in all three scoring activities or tasks within the assessment. Once again, students need to maintain accuracy. I will discuss this in the analysis section.

- One of the most upsetting results of the assessment was that 10 students (43.47%) placed within the "Unacceptable" score area of more than $\frac{1}{4}$ of an inch in the Rafter Length assessed category. Here again the rafter is evaluated after the framing is cut. We also had one student (4.36%) who did not complete the entire rafter assessment.
- 12 students (52.17%) fell in the "Unacceptable" area more than $\frac{1}{4}$ of an inch in the assessed area of Overhang Calculation, and 1 student (4.36%) did not complete this activity.
- In the assessed area of Depth of Birds mouth, 7 students (30.43%) placed in the "Unacceptable" area, and 1 student (4.36%) did not complete the activity.

Data Indicating Trends: Once again students continue to show the same tendencies from year to year. This year, as well in the past, the students scored weak in the assessed areas of rafter length, overhang calculation, and depth of bird's mouth. In looking at the data pertaining to last year's assessment plan we can try to draw some comparisons. It does need to be noted that last year's assessment activities were scored quite differently than this year's assessment activities. For example, in scoring last year's activities the scores that were provided were derived from the assessment activity as a whole. If a student scored higher in one assessed area than another, we provided a score or percentage of the two activities; however, this year each assessed area was broken down with an individual score for that particular area. Nevertheless, last year's class scored 64% on the rafter assessment activity. This equates to 12 out of 19 students obtained received the highest scoring on our rubric in the "Excellent" range. In looking at the class assessed this year, 52.17%, which is equivalent to 10 of the 23 students assessed, were able to score in the "Excellent" scoring area. In looking at this year's assessment, although we have had a number of students scoring with results lower than we would like, I think there are a number of positive trends. In this particular assessment, it is good to see that if we were to include all of the scoring areas from "Excellent" to "Good", we have 53.65% of the students that can calculate, measure, mark and cut a rafter with very strict tolerances, and we are quite proud of that.

Analysis: The rubrics for the stair stringer and the common rafter are very good in determining where students fall short in the various tasks associated with each project. I think that our rubric is very good in determining student's weaknesses. I think that it is also noteworthy to say that although our students at times do not meet our established benchmark, they tend to score higher than the national average on the

NOCTI examination. At the end of each assessment activity the department evaluates its assessment strategy. We have given more practice sessions and have stressed in the lecture and lab to our students the importance to be able to maintain the tolerances as pertaining to the rubric. Nevertheless, students continue to repeat the same mistakes from year to year. We have even discussed even making the rubric less restrictive in order to improve our student scores; however, I don't think that we should do that in order to improve our scores. I also am not aware of an industry established standard and I am also not aware of any building code compliance as pertaining to cutting the rafter other than the required bearing of the framing component.

Outcome 2: Apply the Indiana Residential Code, 2003 Edition, to construction activities.

Project A: Building Planning session, Chapter 3 of the IRC

Success Standard: Students will average 80% on each question.

Data Indicating Strengths: 10 students were given the assessment exam for CNST 261. The exam consisted of 10 questions with a building scenario and the students were required to interpret the scenario as code compliant or non-code compliant. As a class, the students scored a 74% on the exam. Although we did not meet or exceed our benchmark we were pretty happy with the results of the exam. Six of the students taking the assessment exam (60%) did meet our benchmark of 80%. These 6 students collectively scored an 83%. 60% of the students scored correctly on questions 1, 5,7,8,9, and 10. It is good to see that students are referencing the code book and that the majority of students can support their answer in pertaining to the building code.

Data Indicating Weaknesses: There were 4 students (40%) who scored in the 60% range. Of the 4 students that did not meet our benchmark, they struggled with questions 2, 3, 4, and 6. Question #2 is a scenario that requires the student to reference Table 403.1 These students were not able to apply the scenario to code reference table. Their explanations concerning footing width and thickness were incorrect. These students also struggled with questions #3 and #4. These two questions deal with Protection from Decay. These students interpreted the questions as in determining whether the crawl space block was tall enough, which is somewhat correct, however, the questions are dealing with clearances for wood structural framing members in order to prevent decay or rot. I think the students missed question #6 due to a misunderstanding in building terminology. The code book uses a language that is sometimes confusing. For example, if the overall width of a building is 28 feet, then this is known as building span. Twenty-eight feet width or depth would be known as building span; however, one half the distance is also known as building run. The run of the 28 depth building would be 14 feet, or half of the building span; however, the ½ dimension in the code book is identified as span and not building span.

I think the questions are clearly stated, however, the student must be able to comprehend the situation and interpret the code application to the scenario. Building terminology can be confusing at times.

	<p>Understanding terms and jargon that is used in our industry can be challenging at times. I think spending more time on terms may prove to be more beneficial.</p> <p><u>Data Indicating Trends:</u> Trying to compare data from last year’s plan to this year makes me feel like a cat being drug through water! Six of the nine students assessed in last year’s class scored an 80% or better. This year six of the 10 students assessed scored an 83% or better on the exam. In reviewing last year’s plan I did not address which questions the students had the most trouble with specifically, however, in trying to be proactive on the assessment activity we noticed on last year’s exam that we did not provide the specific chart reference table for the rafter span question even though the student had more than a significant amount of information to determine which chart to use. Nevertheless, this year we provided the chart reference table, and in doing so a number of students struggled with the question due to a lack of understanding building code terminology.</p> <p>Project B: Survey on the Building Planning Session on the Indiana Residential Code for One and Two Family Dwellings</p> <p><u>Success Standard:</u> 80% of the students will give the response of “agree” on the survey.</p> <p><u>Data Indicating Strengths:</u> Six students responded to the survey that was administered. Of the 25 survey questions, 93.3% of the student responses were either “Strongly Agree” or “Agree” concerning 20 of the 25 questions asked. This is 13.3% above our established benchmark! Yeah!</p> <p><u>Data Indicating Weaknesses:</u> There were five questions that the students responded as “Undecided.” Those were questions #2, 7, 8, 9, and 15. One of these 5 students also gave a response of “Disagree” on question 15. Questions 2, 7, and 8 pertained to the Indiana Amended Code rule 4.3. Students were also weak in understanding ventilation requirements as set by the code. They were also weak in understanding the code pertaining to non-absorbent materials used in a bath area that has a shower head.</p> <p><u>Data Indicating Trends:</u> Just as last year the students are weak in the area of the Indiana Amended Code rule 4.3. Even though students are given a PDF file of the Indiana Amended Code it may be best to have that code printed and given to the students.</p> <p>Analysis: Overall, I think that the students did a pretty good job in these two assessment areas. It seems one of our challenges in making sure that students have a good grasp on building code terminology in addition to making sure they understand that even though Indiana is under the 2003 IRC building code, we are also under the Indiana Amended Rule 4.3. I think there could be more time spent in explaining these two differing code requirements.</p> <p><u>Outcome 3: Organize construction processes using proper construction calculations.</u></p> <p>Project A: Residential Building Material Estimating Assignment</p>
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	<p><u>Success Standard:</u> 75% of students will score in the “correct” or “acceptable” level in all categories of the rubric.</p> <p><u>Data Indicating Strengths:</u> 15 students participated in the CNST 255 Material Takeoff assessment activity. Given the 7 questions that were evaluated, 71% of the students either responded in the “correct” category or “acceptable” category. Although our benchmark was not obtained we were only 4% from obtaining our benchmark. The breakdown of the 7 questions is as follows:</p> <ul style="list-style-type: none"> • Question 1- 86% of the students were able to correctly calculate the number of cubic yards of concrete for a building footing. • Question 2- 73% of the students either responded correctly or within the acceptable range for determining the number of concrete blocks needed for the foundation. • Question 3- 86% of the students can calculate the correct number of sheets required for floor sheathing. • Question 4- 73% of the students can calculate correctly the number of studs required for the exterior of the building, while 13.5% of the students were able to score within 10% of the correct response. • Question 5- 73% of the students scored correctly or within the acceptable range. 13.5% of the students scored within 10% of the correct response. • Question 6- 53% of the students scored correctly given the number of wall sheathing required for the structure. • Question 7- 53.3% of the students can calculate the correct number of bricks required for the structure. <p><u>Data Indicating Weaknesses:</u> Of the 7 questions asked, several weaknesses were noted; however, questions #6 and #7 had the most incorrect responses.</p> <ul style="list-style-type: none"> • Question 1 - 14% of students could not calculate the correct number of cubic yards. • Question 2 - 27% of the students could not calculate the number of blocks needed for the foundation. • Question 3 - 7% were not within 10% of the required number of sheets and 7% of the students gave the incorrect response as to the number of sheets required. • Question 4 – While 73% correctly calculated the number of studs required for the exterior of the building, and 13.5% of the students able to score within 10% of the correct response, the remaining 13.5% of the students scored incorrectly given the number of studding required. • Question 5 - 13.5% of the students gave an incorrect response. • Question 6- While 53% of the students scored correctly given the number of wall sheathing required for the structure, 33% of the students scored incorrectly but within the 10% range, and 14% of the students scored incorrectly. • Question 7- While 53.3% of the students can calculate the correct number of bricks required for the
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	<p>structure, 13.3% scored in the incorrect response of within 10% of the correct answer, and the remaining 33.3% of the students assessed responded incorrectly given the number of bricks required.</p> <p>In regard to questions 2, 4, and 5 the students were within 2% of obtaining our benchmark. Students were the weakest in determining the correct number of wall sheathing, and bricks required for the structure.</p> <p><u>Data Indicating Trends:</u> This was the first year for this assessment activity. There are not any precious benchmarks established at this time; however, we do administer the NOCTI written exam and there are some similarities given these two assessments. For example, the NOCTI written exam has a category for estimating Foundations, Forms, and Concrete. CNST 255 assessment questions 1 and 2 would be very comparable. In this category the national benchmark for NOCTI is 65.4%. Our students assessed with the NOCTI exam last spring scored a 67.4% in this area, which is 2% above the national benchmark. In trying to make a correlation to the NOCTI exam they do have a written exam in the area of Rough Framing. Our CNST 255 assessment questions 3, 4 5, and 6 would be very comparable. The national benchmark for NOCTI in this area is 70.3%. Our students that were assessed last spring scored a 74.4% as a group in this area, which is 4.1% higher than the national NOCTI benchmark. As a program we feel we continue to score above the national averages in pertaining to the NOCTI exams.</p> <p>Analysis: I think the students assessed overall did pretty well on the assessment activity. As noted above, the students were weakest in estimating the number of wall sheathing, bricks required for the structure.</p>
<p>#6: <u>LEARNING IMPROVEMENT PLAN:</u> FALL ASSESSMENTS – Due February 7, SPRING ASSESSMENTS – Due May 23: Submit to Program Faculty, College Dean, College Liaison, and Amy Hatton.</p>	<p><u>Outcome 1: Construct projects using appropriate techniques and calculations.</u></p> <p>Impact of Previous Year’s Plan: We plan to keep the same plan as last year, which is offering students more opportunities in lecture and lab in regard to stair and rafter framing. We plan to keep the rafter activity for next year; however, we may want to include some other carpentry activity for Outcome 1A. We will need to decide as a department what that activity will be. It may be difficult to replace if we are going to continue to compare our student scores to the NOCTI exam.</p> <p>New Improvement Plan: Our plan will be to stress once again tolerances to the students in making sure they understand that even though carpentry is not machining and there are not standards or code applications, it should maintain close tolerances. As noted in previous plans, as well as this plan, we will provide more lab exercises and more opportunities for students to use a circular saw in order to develop more skill in these areas.</p>

	<p><u>Outcome 2: Apply the Indiana Residential Code, 2003 Edition, to construction activities.</u></p> <p>Impact of Previous Year’s Plan: It was decided in last year’s plan that more critical thinking exercises in class pertaining to applying the building code to differing building scenarios would be most beneficial to students. As noted in last year’s plan, the critical thinking exercises help students to learn the code and actually provide for them real life experiences they will face once entering the building industry; therefore, we will continue with these types of exercises in class, along with traditional exercises such as tests etc.</p> <p>The survey instrument is pretty good in understanding the quantity of code related issues the students have gained from the class. The survey helps the instructor to see that the students have been exposed to a large quantity or content of the building code in reference to the Building Planning Session, Chapter 3. We plan to keep the survey.</p> <p>New Improvement Plan: We plan to keep offering the critical thinking assessment activity in regards to Applying the Indiana Residential Code. The scenarios on the assessment activity are very similar to real applications, and they are derived from previous building examples from the Construction Technology program. We will continue to place emphasis in understanding the building planning session in how it applies to real building applications. The department will implement more critical thinking exercises in the fall of 2014.</p> <p><u>Outcome 3: Organize construction processes using proper construction calculations.</u></p> <p>Impact of Previous Year’s Plan: This was the first year for this assessment activity.</p> <p>New Improvement Plan: Obviously we need to spend more time with students in calculating the number sheets required for wall sheathing and bricks. This will require spending more time in lecture with the students, teaching them how to calculate area for these two building components.</p>
<p>#7: ASSESSMENT TOOLS IMPROVEMENT PLAN: FALL ASSESSMENTS – Due February 7, SPRING ASSESSMENTS – Due May 23: Submit to Program Faculty, College Dean, College Liaison, and Amy Hatton.</p>	<p><u>Outcome 1: Construct projects using appropriate techniques and calculations.</u></p> <p>Project A: Stair Stringer Project Improvement Plan: We will determine a new assessment activity for this area. At this time a wall framing activity may be a good change; however, we need to decide on this as a department. As mentioned earlier we need to find an activity to benchmark to the NOCTI exam.</p> <p>Project B: Common Rafter Project Improvement Plan: No changes will be made at this time.</p>

	<p><u>Outcome 2: Apply the Indiana Residential Code, 2003 Edition, to construction activities.</u></p> <p>Project A: Building Planning session, Chapter 3 of the IRC Improvement Plan: No changes will be made unless the instructor who teaches this class next year wishes to change the activity.</p> <p>Project B: Survey on the Building Planning Session on the Indiana Residential Code for One and Two Family Dwellings Improvement Plan: No changes will be made unless the instructor who teaches this class next year wishes to change the activity.</p> <p><u>Outcome 3: Organize construction processes using proper construction calculations.</u></p> <p>Project A: Residential Building Material Estimating Assignment Improvement Plan: As mentioned earlier, more emphasis may need to be placed on estimating wall sheathing and brick quantities. It would be best to include more of these types of activities.</p>
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