Faculty Development Plan

Overview
In conjunction with the faculty development series at Brigham Young University, this faculty development plan has been compiled to identify my personal objectives as well as for assessment of success in the areas of teaching, scholarship and citizenship. Each section evaluates my current achievements, goals for development and the tools needed to achieve a successful outcome. The final section is a project proposal that will aide in my development as a teacher and scholar.

General Self-Assessment
I have a distinct set of skills that is valuable within the Construction and Facilitates Management program. I have received extensive academic training in multiple fields including residential and commercial construction, infrastructure, small company and business management, surveying, engineering, and more. My educational background is strengthened by life-long hands-on experience; I have been involved in building from a young age through adulthood with experience in both commercial and residential construction. This facilitates my teaching of the trade and management classes within the program. In addition, my PhD in Civil Engineering gives more credibility to the published works and collaboration efforts within an engineering field. My diverse background into many subjects enables me to contribute to many of the different classes taught through our department and improves my collaboration with other faculty members within the program as well as faculty and students from other departments and schools.

A. Teaching
Self-Assessment
I love learning and my passion for learning is what drives me to instill a desire for knowledge in others through education. My purpose in teaching is to provide students with the skills that will set them apart from others in the industry while assisting them in finding their own passion towards lifelong learning. I focus on a practical application of skills based on a deep understanding of the principles taught. My primary goal is for students to apply classroom learning to the work environment and to develop and create new improved methods in the field through their application of continuous learning.

Through a mentoring relationship I seek to assist students in whatever capacity I can. At times this may be as a mentor in a classroom setting, as a tutor one-on-one, or as a teacher of religion helping them gain a deeper understanding of gospel applications in the industry. I make my life a pattern they could follow in order to lead an enriched and edified life focused on principles that lead to success in this life and the life to come.
The current expectation for my teaching load is to teach five courses a year. This upcoming year I will be teaching CFM 217 (fall, winter, and spring), CFM 412 (fall and winter). I will also be leading/teaching the student seminar class CFM 291R, and overseeing the teaching of the CFM 416 capstone class being taught by adjunct faculty. CFM 217 is a new preparation that includes the development of a construction survey component. I will also be team teaching the CFM 417 competition team class (fall and winter, respectively). I don’t believe there will be changes to my course load; however, the addition of new faculty in our department may necessitate a shift in course instruction. I hope to have minimal changes to be able to focus establishing my scholarship and other endeavors. I do welcome any changes that help me contribute to our faculty team and the students. I have selected the CFM 217 course to focus on developing and strengthening this fall. The details about this course development are contained within the faculty development teaching proposal section.

*Professional Goals*
I continually seek to improve my teaching. This improvement will be the result of seeking feedback from multiple sources and making continual enhancements to the course based on this feedback. Feedback will come from the following sources:

- The use of course and instructor student evaluations, with special attention to student comments
- Faculty observing my classroom interaction with the students and then providing feedback. (The feedback they have provided thus far has given me great insight and I have already incorporated changes into my classes from their feedback. I will continue to invite faculty from different disciplines to visit my classes)
- The Teaching and Learning Center for services like the SCOTs program.
- Midterm student feedback
- Continuous in-class student feedback on assignments and activities. I invite students to give in class feedback to assignments and activities and will continue to seek immediate feedback from students

I will improve my teaching and the overall experience of students by doing the following:

- Improving the organization of each class through the use of Learning Suite to establish learning objectives and outcomes, as well as clear expectations for students
- Creating an online course schedule updated regularly
- Providing online content to assist in specific learning objectives
- Giving students enriching hands on activities and on-site experiences
- Promoting at-home learning through quizzes and take home assignments
- Testing on practical application of learning
Continuing to educate myself through conferences and workshop seminars focused on improved teaching

- Publishing in peer reviewed journals focused on education
- Beginning class with a prayer and integrating gospel principles purposefully into classroom topics
- Sharing my research with students and helping them become involved
- Adding thoughtful in-class activities
- Rewriting the current scheduling software student manual
- Writing a journal article related to the in-class activity “the scheduling game”

To be able to reach my teaching goals I need support provided from qualified teaching assistants. As am just beginning to teach, I recognize the need to identify and prepare teaching assistants. I will make this a goal of each class and communicate to class members that I am looking for high achievers to take on the role as a future TA.

B. Scholarship

Self-Assessment
Scholarly work is an important personal objective of mine as a continuing faculty status (CFS) track faculty. I am personally committed to a high level of quality scholarship. Being new to having a CFS track faculty position, having recently completed a PhD, my efforts in publishing are related to my thesis and dissertation works. I will continue my efforts to publish works related to my graduate work, but will increase my focus on new research work as well.

Throughout my graduate work I have been a part of multiple published works stemming from my thesis and dissertation. My thesis was sponsored by the Construction Industry Institute (CII). A highly used pre-construction planning tool called the PDRI for Infrastructure Projects was the highlight research. Multiple conference papers, journal, and presentations have stemmed from this work. I will continue to use the high demand for research related to the PDRI tools for publishing.

My dissertation was sponsored by the Alliance for Construction Excellence (ACE). The resulting works from ACE are in the early stages of publishing. I anticipate that there will be multiple journal articles stemming from this research. The topic of research is alternative project delivery which is well received in the industry. Three articles have been written at this point, resulting in two accepted at a conference, and the third being prepared for a journal.

My research focuses on the construction industry’s needs as well as developing a better learning environment for students. I plan on integrating my research with the courses I teach and the industry’s needs. My background and experience will help me accomplish this to become an effective researcher, teacher, and member of the construction industry. I have already begun to get involved in a wide range of research efforts that will enhance my individual strengths and benefit the students and industry.
The main area of focus for my research efforts is in the area of construction project controls. Two areas of project controls are of great importance to my work. First, project controls that deal with the management of time, money, safety and quality. Secondly, I am involved in project controls that are more of a physical nature. These controls involve the physical controls of building survey, project tracking, quality controls through technology, and the use of technology to impact a construction project. A few research questions that give insight into some of the specific questions I am seeking to answer are the following:

In Education:

- How does hands-on competition based learning improve student experience?
- What are the perceptions that exist between construction managers and civil engineers? How has that changed over time? What is the cause of these perceptions?
- How has the instruction of survey work in engineering changed due to the trends in the industry?
- What role does BIM play in the use of building layout and controls? What is the best way to prepare students for the future in BIM/layout?
- How can we use games like the Puzzle game, to teach difficult cost control principles?
- What are the lessons learned in the development of a construction management capstone class?
- How is the shift from traditional civil, contractor, and architect roles affecting how we educate students? How has this differed from international trends?

In Industry:

- What benefit can be obtained from using improved technology in building layout?
- How will BIM be used in new technology for survey and building layout and controls?
- What are the cost, quality, and time implications of layout technology implementation?
- Can a schedule be optimized through the analysis of task-cost optimization curves?
- How does the use of task-cost optimization improve project outcomes?
- Do projects benefit from a consistent value analysis throughout a project?
- What factors has the largest effect on the long term costs of construction: quality, time, cost, safety? Analysis of litigation awards?
- What is the legal implication of the use of the construction schedule as a tool for compliance?
• How can integrated facilities construction and management (IFCM) improve building performance?

A research hurdle that I foresee is the lack of graduate students in the CFM program. Unlike many other disciplines, I will not be able to rely on graduate student work to primarily feed research; therefore, undergraduate students will need to be involved in the research. Outside funding in addition to internal funding will be needed to support the undergraduate research effort.

I have pursued grants to help in my research and teaching efforts. The most recent proposal to the National Association of Home Builders was not accepted, however, I received valuable feedback as I met in person with one of the board members in charge of this grant. I was able to learn from this experience and hope to improve this grant proposal as I will be resubmitting for the grant next year. I will continue to look for opportunities to submit for grants and anticipate completing two this year.

**Professional Goals**
I am looking forward to developing myself as a nationally recognized and valued scholar. To do this I have set some goals for myself to develop myself in this area.

- Improve civil-construction interaction and collaboration within the college
- Seek and obtain funding through a national organization
- Develop a recognizable research trend/identity
- Share research with students in my classes
- Join a beneficial research group
- Build a methodology and data analysis library
- Dedicate 30 minutes (uninterrupted) to daily creative writing
- Make a five year journal plan: paper topic-publisher
- Produce one written document a month (Abstract, proposal, paper, grant etc.)
- Apply for at least two grants a year
- Improve interactive relations with other departments and schools
- Get involved in the right industry groups: NAHB, AGC, ABC, CMAA, IFMA, IREM
- Set aside time and communicate the need for time to department chair and colleagues
- Meet with mentor often to learn from his awesomeness

I will meet or exceed the School of Technology guidelines for scholarship by being involved in a productive high quality scholarship program, having consistent scholarly output in field (3+/year products) in recognized peer-reviewed venues, actively seeking external funding for scholarly activities, and involving graduate and undergraduate students in scholarly output and mentoring. I want to be an important contributor to the success of the Construction and Facilities Management program as well as BYU through valuable and impactful research efforts.
C. Citizenship

Self-Assessment
I have the talent of being a team player and my plan for citizenship centers around this talent. I have already become involved in collaboration with my colleagues as an involved member of a team. Our program benefits from a team that has a good work ethic and cares about the success of each member. I will continue to culture this environment of respect and seek for ways to use my individual talents to benefit the whole.

Professional Goals
I will accept any leadership or committee role in the program, school, college, or university that is asked of me. My participation will demonstrate my commitment to be a good citizen. I will carry out my responsibilities with dedication, skill, and initiative while actively working to improve my realm of influence. I will strive to be an able advisor to students and supportive of the program and university functions such as faculty meetings, devotionals, and graduate seminars. I will seek responsible leadership in professional organizations being careful not to stretch myself such that other important areas suffer. I will focus on involvement in national and/or international organizations while promoting the goals of BYU and representing the university well. Excellent citizenship is my goal at BYU.

Another of my professional goals is to pursue my license as an engineer. I am currently an engineer in training (EIT status) and need a few years of training under a current professional engineer. I will seek out the right fit in an engineering mentor here at BYU that can help me achieve the professional engineer status while benefiting Brigham Young University with my service. I will limit my involvement in the practice of engineering to what will be beneficial to the program. An example of this could be using class topics like building layout and apply it to services needed by the university like the campus survey project currently underway. This will facilitate student learning while assisting the university and enhance my skill and professional/research development.
Course Development Project Proposal

As my course development project proposal I have selected **CFM 217 (Concrete + Job-Site Layout)** as the course for this effort. I will be *teaching this course in both the fall and winter semesters*. This course was selected because changes to this course starting Fall 2015 are significant. The class has been assigned to me because of my background and expertise among the faculty to incorporate the use of robotic total stations, GPS rovers and other new technologies for building layout. This proposal discusses the changes that are being added to the class as well as identifies specific course materials that need to be created.

This proposal consists of completing the “Planning Your Course” document, as instructed in the proposal guidelines. The answers to the worksheet questions are shown below:

1. **Size up the situation**

   A. *What kind of students enroll in this course (e.g. number, prior knowledge and experience, gender, motivation, etc.)*?
   
   This course has between 30 and 40 construction management students per semester. The class is currently mapped in the graduation flowchart as part of the curriculum occurring during the second semester of the freshman year. As with much of the construction management demographic, most of the students are male. Many of the students are married and several have children. Most work some sort of part time job, many within the construction industry. Students come to this class with very limited knowledge of the material unless they have had personal work experience in the field doing this type of work. Even those with previous work related experience have not used the advanced technologies or studied the topics in depth. Students are taking this class because it is required for graduation. It does not feed into any other classes nor is it a prerequisite for other classes; because of this, students from freshman to seniors take the class.

   B. *What role does this course play in the overall educational experience of the students who take it (e.g. GE, elective, required, majors-only, lower or upper division, prerequisite for other classes, etc.)*?
   
   This class is a required lower division class for construction management majors. It is one of the “trades” (hands-on lab) courses versus the management courses.

   C. *In what kind of curriculum is this course embedded? How does it relate to other courses? What courses does it build on? What courses follow it?*
   
   This course is considered a trade course and covers some of the hands-on tasks that construction management students will be managing and in some cases performing themselves on a job site. The main focus of the course is on teaching concrete estimating, placement,
control, design, and other management related concrete practices as well as the layout of buildings or systems using layout and survey tools. The class is foundational for other classes but is not a firm prerequisite for other classes. Students can choose to take the class at any time in their studies but they are encouraged to take the class early in their education so that they can use the knowledge gleaned from this course in upper level courses.

D. **What external professional standards (if any) need to be met?**
There are not any special external professional standards that construction management students need to meet in this course.

E. **How does this course contribute to the Mission of BYU and The Aims of a BYU Education? In what ways can it assist students in their eternal progression?**
This course serves primarily in helping students to “receive instruction in the special field of their choice,” helping students better understand the hands on application of the construction systems the students will be building throughout their careers. This course principally meets the aims of a BYU education by being “intellectually enlarging,” providing practical application for the skills they will be performing or supervising. The main objective of any of my courses is to help the students build the kingdom and establish Zion. Even though we are building the physical kingdom the principles are still the same and instruction is given with that eternal perspective.

F. **What are your own attitudes, beliefs, and values about teaching? What are your strengths as a teacher?**
I believe there is no greater calling or responsibility than to be a teacher. I take seriously and am humbled by the responsibility of being a teacher and especially being a teacher at BYU. I consider my job at BYU my opportunity to build the kingdom and establish Zion. This is my primary goal and all my decisions in regards to teaching point to the goal of building the kingdom and establishing Zion. My greatest strength as a teacher is my love for the students. I genuinely care about their happiness, their success, the challenges they face, and preparing them for their future. All the other needed traits of a teacher I believe will come naturally as I shown my genuine love for the students.

G. **What kind of learning space will you have (e.g. classroom, lab, fixed desks or movable chairs, media equipment)?**
This class will be taught in room 130 of B66. This room has the capacity to seat 66 students, but the class size is limited to two sections of 25 students per section. Chairs and desks are fixed in place, but they are the table style desks providing plenty of desk space for the students. Students typically congregate towards the center of the room so they have a better view of the screen and white boards. I enjoy teaching in this classroom primarily because of the ample white board space. The large white board panels extend the length of the front of the class, with the center panels moving up for an additional two panels. I like that the projector can be shown on the middle two white boards; this allows me to use an image from my presentation and write over the top of it. I feel like this is a great way to combine a visual and hands-on approach.
Computer use in this classroom allows for PowerPoint, video clips, PDF, internet, etc. A laptop can also be utilized with construction specific software. The classroom is also set up to record lectures. This could be helpful as I continue to develop the course. The B66 lab is adjacent to the classroom. Students can move from the classroom to a lab environment where the theoretical learning of the classroom can be immediately applied in a hands-on learning environment.

2. **Identify 3-5 general goals/LEARNING OUTCOMES for the course.**

   **A. What do you want students to be able to DO once the course is over?**
   1. Students are able to complete a quality and highly accurate takeoff and estimate for a number of concrete systems.
   2. Students are able to identify critical management techniques that relate to the placement of concrete and demonstrate a good understanding of concrete management principles.
   3. Students have a good understanding of the chemical properties and behaviors of concrete that affect the use, durability, placement, strength, and limitations for the use of concrete.
   4. Students are able to use the latest in survey and layout tools to accurately layout a building, road, jobsite or other necessary survey work.

   **B. What do students have to KNOW in order to do the items listed in question 2.A above?**
   Students are able to complete a quality and highly accurate takeoff and estimate for a number of concrete systems.
   a. Understand the different components used in concrete construction.
   b. Complete quantity takeoffs by hand and using a computer.
   c. Use quantity takeoffs for an accurate estimate of costs.
   2. Students are able to identify critical management techniques that relate to the placement of concrete and demonstrate a good understanding of concrete management principles.
      a. Understand the delivery process of concrete from raw material to placement and maintenance.
      b. Explain concrete material behavior and how to control these behaviors.
      c. Identify the best practices and uses of concrete as a building material.
   3. Students have a good understanding of concrete chemistry and behavior that affects the use, durability, placement, strength, and limitations for the use of concrete.
      a. How is concrete made?
      b. What are the essential components in concrete?
      c. How does the design of a concrete mix change depending on the use?
      d. What management decisions will the students need to make in regards to concrete?
      e. What test procedures and quality or performance controls measures students will need to manage throughout their careers?
   4. Students are able to use the latest in survey and layout tools to accurately layout a building, road, jobsite, or complete other necessary survey work.
      a. Use a robotic total station for the layout of a building or placement of construction components with accuracy and precision.
b. Use a GPS rover to locate control points in a global environment.

c. Combine a building information model with the physical world tools for improved project controls.

d. Use other building layout tools and perfect processes such as elevations using theodolites or level, using tape measures string lines, control lines, grid systems, etc.

C. What implications does the gospel have for students learning in this course? What spiritual/religious goals do you hope the students will realize?

Concrete is used for the foundation of any stable structure. A class discussing the essential components of this critical foundation is an ideal situation to teach about the essential ingredients in a person’s life that lead to a solid foundation. Each lesson should act as a parable for life in the gospel and should prepare students to learn and obey eternal principles. The study of concrete is the study of laws and consequences. This study can cause students to take an introspective look at the components and behaviors that make up their structure and analyze if in the end their structure will be stable or fall. I plan for each lesson to discuss some application of the spiritual. Building layout and control is also a great opportunity to introduce gospel topics such as control, direction, precision, accuracy, making changes, being straight and true, and many more. I am excited to have a class that lends itself so easily to teaching gospel principles.

3. Determine how you will assess student learning and achievement.

A. For each goal/learning outcome specified above, what information can you gather to show how well the outcome was achieved for each student individually? For the class as a whole?

Students are able to complete a quality and highly accurate takeoff and estimate for a number of concrete applications.

- Compare takeoffs and estimates to my own, actual industry cost for a known project or to the comparative average of the class.
- Give assignments and exams that reflect an understanding of these concepts.

Students are able to identify critical management techniques that relate to the placement of concrete and demonstrate a working knowledge of concrete management and control.

- Homework that encourages open responses and indicates an understanding of their specific management responsibilities.

Students have a good understanding of concrete chemistry and behavior that affects the use, durability, placement, strength, and limitations for the use of concrete.

- The use of a class competition for mix design is the main assessment of student learning in this topic. Students will design their own mixes and concrete cylinders will be tested. The level of strength for their test will show their understanding of concrete as a building material.

Students are able to use the latest in survey and layout tools to accurately layout a building, road, jobsite, or complete other necessary survey work.
• Students will turn in a field notebook that shows the completion of survey tasks and final measurements.
• Specific tasks will need to be performed and students will be graded on precision and accuracy.
• Students will need to demonstrate their knowledge of survey technology in class presentations.

4. **Determine specific learning activities THAT WILL HELP STUDENTS ACHIEVE THE COURSE LEARNING OUTCOMES.**

**A. FOR EACH OUTCOME listed in #2, what learning activities will best help students achieve these outcomes?**

Students are able to complete a quality and highly accurate takeoff and estimate for a number of concrete applications.

- Concrete quantity take off of a completed building
- Estimates for different concrete jobs

Students are able to identify critical management techniques that relate to the placement of concrete.

- Write a detailed management plan
- Answer homework and test question related to the management of concrete and building layout
- Hands-on learning experience of placement and finishing of concrete work

Students have a good understanding of concrete chemistry and behavior that affects the use, durability, placement, strength, and limitations for the use of concrete.

- Student competition based on the strength and application of concrete
- Specific design limitations and hurdle presented for design modification Students are able to use the latest in survey and layout tools to accurately layout a building, road, jobsite or complete other necessary survey work.
- Specific field engineer related tasks performed in a lab environment with clear learning objectives
- Field journal reports on findings and conclusions

**B. What activities will generate learning that lasts?**

Impactful learning connects theory with application in a settings they will encounter every day. The assignments mirror as close as possible the tasks they will be expected to perform as construction managers. Feedback will be provided to the students that enriches their educational experience. Students will learn as they do; many opportunities will be provided for the students to put into practice the theories taught in class.
5. **Select a general strategy and a sequence of activities.**

    **A. Course strategy**
    I am designing this class to be almost self-led. For example I will take class time to introduce topics and steer learning in a good direction and then will provide assignments, activities and opportunities that cause them to seek for an in-depth knowledge of the principles that will lead to success. The class will be a soundboard for the challenges they face as they try to solve the management problems I have presented through the course material. With the right resources for answers, a mentoring relationship with me as an instructor, and group learning and collaboration; students will leave the class with confidence to perform in the industry.

    **B. Daily lesson strategy**
    Each lesson will be scheduled on learning suite with a reference to the material that will need to be studied before class. This includes the reading materials. The objectives of the class are listed in the semester schedule. Reading quizzes will help to ensure that they are doing the reading, and ultimately prepare them for class. Class time will be dedicated to sections of presentation style learning and in class learning activities. Finally class time will be dedicated to problem solving collaboration for the activities they are working on at that time. This class time may also be dedicated to hands-on demonstration of activities they will perform on their own later in the class or in lab.

6. **Develop a sequence of activities, a week-by-week schedule for the whole term.**

    This is a new course for me and as such I am still developing the specific topics I will cover each week and the learning objectives that relate to that topic. The class has been taught before by another teacher but is changing to fit the needs of the program and additional objectives have been added to the course. Over the next few weeks I will be identifying the objectives for the class as well as the learning outcomes and activities that will be presented to students in order to meet these outcomes. The following is a list of some preliminary topics and objectives I will be using as a baseline for further development:

    **Building Layout & Calculations** – Gain the ability to layout a building and perform the elevation calculations.

    **Concrete & Masonry on Projects** - Understand how to manage concrete and masonry operations on a project site.

    **Quality** - Understand the process and placement to achieve high quality.

    **Concrete & Mix Design** - Understand the properties of concrete and mix design.

    **Masonry Constructions** - Understand the properties of masonry construction.
Weather and Concrete - Understand weather considerations for concrete and masonry operations.

7. **Locate resources.**

What resources do you need (and can you get) to support each of the goals listed in #2 (e.g. people, places, and things, including media)?

For the class to be successful, space and equipment are needed. We have located next to the class room a lab space that will be used during class instruction and during lab hours. The space needs to be cleaned and organized to improve the use of the lab for class. The needed equipment has been discussed with the program, school and college leaders and the approval for the purchase of needed equipment has been given. A dedicated storage space for this equipment is needed as well as a way to regulate its use by the students. I am currently working with the program chair to find the best solution for these issues. I believe the biggest challenge will be finding qualified student TAs for this class as there will not be students with the skill sets taught in this class until the class has been taught a few times. Finding qualified student TAs will happen in future semesters as students have taken the course.

8. **Develop your grading system.**

A. Your system should reflect assessment of the full range of learning goals and activities. Homework will be graded by a grader. Exams and quizzes will be graded by the instructor. Reading quizzes are graded automatically through the Learning Suite. Most of a student’s grade is based on independent work, thus ensuring that students are able to demonstrate competency in course material to pass the class.

B. The relative weight of each item on the course grade should reflect the relative importance of that activity in relation to the whole course.

The grade breakdown is shown below:

- Homework 20%
- Field book activities 20%
- Concrete Competition 10%
- Midterm Exam 1 15%
- Midterm Exam 2 15%
- Final Exam 20%
9. **Analyze and assess this “first draft” of the course.**

   A. *What kinds of situations might arise as you implement this course? For example, will students be motivated to do the work? What if they’re not?*

   The challenge that may arise from this course will most likely stem from the fact that this is the first time I am teaching this class. I am not just improving on a class that I have taught. Therefore, I won’t be able to predict exactly how successful an activity will be. Adjustments will be made in class as I learn what is working and what is not. This may cause concerns from the students if things are not always predictable for them. Learning Suite will be used to minimize these concerns by providing an updated schedule to the students as adjustments are made.

   B. *Does the design encourage student involvement?*

   The use of competition based learning can create a very involved environment. As students realize that their success is in their own hands, they are motivated to learn more than just the basics that will be required in the class. The end result is that tests and quizzes become easier as they test on only a fundamental knowledge of skills and personal study has led to a deeper understanding of the principles of the class. The class mirrors activities the students will see in the “real-world” and they will want to succeed in these activities to be able to succeed as they take jobs in the industry.

   C. *Will students get sufficient feedback on their performance?*

   Feedback will come in multiple ways, from the results of a test to the use of class time for “lessons learned” sessions. Online quiz and test answers will be graded with a provided response to the answers from me with feedback on why the right answer is correct and where the information can be found to support the correct answer. Lab activities can be performed over and over until the participant is satisfied with the level of performance of the task, in other words until they have met the learning objectives.

   D. *How can you prevent (or at least minimize) problems?*

   Communication is the key to avoiding problems. If the students know what is expected and are given tools to meet the objectives there are rarely problems not easily handled. I will communicate clearly the objectives and give feedback and direction to the students to minimize problems.

   E. *Make the necessary modifications in the design.*

   I recognize this is a work in progress. Continual revision is anticipated as this plan is modified to improve the course.

10. **Write the syllabus.**

    The syllabus of weekly events will be created using the tools provided in Learning Suite.
11. Plan evaluation of the course itself, your own teaching, and especially the students’ achievement of learning outcomes.

A. How will results of student assessments be compiled and used to determine if learning outcomes have been achieved?

The results of take home assignments, quizzes, labs, and tests in the course will be a direct reflection on determining if the learning outcomes and objectives are being achieved. After each significant milestone, (i.e. and exam or large assignment), the assignment will be examined and class time will be taken to understand if there were gaps in the learning. Time will be taken to correct or improve the learning in areas that indicated a weakness or lack of understanding. Constant and consistent feedback and communication will be the key to reaching course objectives.

B. What went well? What concerns do you have about the course? How effective are particular learning activities? How effective are the assessments of student learning?

The use of student feedback will be instrumental in understanding how the class is doing. The greatest benefit to the course will be not only the use of an end of year evaluation, but also the use of midterm evaluations. Additionally feedback will be obtained through the SCOT program. The greatest concern I perceive about the class initially is the organization of the class as things start out. I want the students to know exactly what will be expected and to achieve success. This may be difficult as I am making adjustments as the semester continues. There are bound to be learning activities that do not go the way they were intended. I will make changes as necessary and communicate with students their part in the development of the course as well as my gratitude for their participation and honest feedback as the course goes through the improvement process.

C. What sources of information, in addition to assessments of student learning, can help you answer the above questions?

I believe that one of the best ways to get feedback is to ask. Small amounts of time can be dedicated to immediate feedback on the design of an assignment. Students are eager to feel like they have a part in the creation of something. As long as it does not turn into an opportunity to blame the teacher for their own inadequate work, it can be helpful for both student and teacher and for future assignments and classes.
The $300 grant money would be very helpful in my course development. I would be able to use the money for immediate impact on the students. The main use of the grant money would be for an improvement of lab space through the purchase of a concrete testing machine or other lab improvements.

1) The program currently has access to the B66 lab space. This space has previously been underutilized due to the collection of clutter in the space. I have begun to clean out the space and use it as a functional lab. I would like to add to the lab space an area dedicated to concrete materials as well as large space to be used in the simulation of building layout and controls. An important part of the class will be designing and testing concrete samples. This hands-on learning will improve student understanding and retention as well as solidify class room instruction. The course would be greatly enhanced through the use of a concrete testing machine. The grant money could be used for a portion of the funds needed to procure one of these machines.

Any of these two items would greatly improve my class and provide a better learning opportunity for the students.
Scholarship Strategies Project Proposal

An overview of my principal scholarship goals and themes is included within the faculty development plan. This section is dedicated to providing specific scholarly goals to be achieved by February 2016. My scholarly goals and strategies for achieving them are explained below.

I currently serve as committee chair for two graduate students, both of which want to be done with their research by this proposal deadline: Scott Davies: *Lean Practices for Large and Small Construction Companies February 2016*, and David Willis: *Full Building Information Models for Construction Takeoffs and Estimates February 2016*. My goals for them will be to help them complete their thesis, prepare their work for publication, and get them graduated. I propose to focus on several activities related to my work with these two graduate students to achieve these goals:

- Meet regularly (typically weekly) with them, to stay apprised of their work and continue to mentor them in their research efforts.
- Provide a quick turnaround on reviewing their thesis writing (within a week).
- Identify scholarly venues to publish their work and begin the process of writing at least one paper with them. Ideally these papers will be completed in conjunction with their thesis writing. It is my personal goal to allow them to be listed as the principal authors, but only if they do the majority of the work.
- Help them stay apprised of graduation and thesis submittal deadlines, and help them regularly set and follow up with research goals so that they can graduate in a timely manner.
- Push the students to have three papers that eventually will stem from their thesis work. Teach them to format their thesis such that these papers are a natural product.

I recognize that I will need to add to the number of graduate students that I oversee in order to meet my research goals. To do this I will begin with the undergraduate students that I feel would be successful in a master’s program and start them on research programs with me. If they begin in their undergraduate work to focus on thesis type work, the transition into graduate work will seem less daunting. I plan to take on at least two new undergraduates a semester to develop into student researchers and future graduate students.

I have a personal goal to increase my scholarly production. Ideally I would like to have three publications per year, but am shooting for a minimum of at least two. To do this I plan to implement the following practices:

- Make connections with colleagues and coordinate with them the writing that we can be doing together. Set deadlines for our work and target the publishing venues we would like to use.
• Find and read articles that are similar in nature to those I would like to do. Use these articles as a methodology of the information I will need to gather to have a similar impact. Begin with this end in mind to avoid work that does not lend itself to publishable material.
• Improve my library of useful data analysis books to improve the data analysis techniques I use in research.
• Dedicate 30 minutes a day to writing with an additional dedicated writing block in the week. Make this time a time when I do my best writing. For me that may be staying late one day of the week as my mind tends to do better in the afternoon and evening hours.
• Keep a checklist of the writing I am pursuing, the status of the works and the deadlines I am trying to meet. This checklist will be highly visible and communicated with my mentor and colleague so I can be held more accountable for the goals I have made. My office whiteboard will serve as an ideal location for this.
• Finish writing something each month. It could be an abstract or a full paper, but every month something needs to be ready for peer review or feedback.
• As journal articles are of the most value to my research, I will pursue these venues first. Conference papers will be the result of journal articles that failed to be as highly valued.

I have currently been working on a number of research articles that are in various stages of publishing. A recent conference paper that has been accepted has the availability for future publishing as a journal article. I will be spending some time on this paper in the near future to get it to be journal quality. I recognize that I am spending a lot of time doing the writing myself, however, I plan to have other authors take a more active role in writing this and other works.

I have identified some professional and academic venues for the work that I am doing. These publishing venues are the ones I believe to be most impactful for my industry. They include: The Associated Schools of Construction (ASC), American Association of Engineering Education (ASEE), and American Society of Civil Engineers (ASCE). I will continue to identify the publishing venues that are the most impactful and pursue publishing in these venues.

As an important part of my job here at BYU, I have the goal of bringing in outside funding. I have already been involved in pursuing grants from national agencies. I have pursued a grant with the National Associate of Home Builders. Although the grant proposal was not successful in the end, I was able to talk to some members on the decision board about how to improve my proposal for next year. The reward for proposals is not in the timeframe of this scholarship project but the deadline for the proposal is. I will be submitting a proposal once more for this same grant money.

I have teamed up with a successful mentor that has a good grasp of how to achieve success in the area of scholarship. One of my main goals is to hold myself accountable with my mentor. I will share with him these goals and then during our regular meetings discuss my progress.

I recognize that for me to be successful in the area of research I will need to dedicate ample time. If I dedicate my time to something, it thrives. There are many things that try to rob the time that I spend on publishing, they may seem important at the time but they will rob what is best for me if I am not careful.
To keep myself in check I will create a calendar of the times I have set aside for research and report on whether I have kept those appointments. I will make my mentor aware of the goals I have set, the times I want to dedicate to writing, and how I have actually used that time. I know that if I dedicate the time to it, my scholarly work will exceed the expectations that have been set for me and that I have set for myself.
Citizenship Project Proposal

As a faculty member of BYU, I look forward to being part of this elite community of scholars and adding my individual contributions to the school and to the industry of which I am a part. The collaboration that exists among scholars can be of great benefit to all areas of teaching, learning, scholarship and community development. I want to make collaboration a fully integrated part of all my endeavors. This collaboration will happen within my program, department, school, university, and at a national level in organizations that promote the same values we have here at BYU. I have put together some ideas on how I plan to collaborate to benefit my teaching and scholarship. I have also given examples of how I plan to get involved in the communities I serve.

Collaborative Teaching: I would like to use the feedback of colleagues in my program by having them observe my teaching and also observing their teaching to find ways to improve.

Collaborative Scholarship: I would like to work more closely with colleagues form other disciplines and collaborate on the topics that overlap. Where other schools have the theories of how to solve specific problems, we are often the ones that can provide valuable and practical problems to solve. I want this collaboration to extend to the student level, working on papers and presentations from students from other disciplines that are pursuing topics on which we could collaborate.

Service Activities: I will be involved in the student competition teams for both the NAHB and the ASC as a mentor and coach. I plan on using the things I have learned through last year’s competition to really help the students have a valuable experience.

Activities to Build Collegiality: I will make connections with colleagues from other departments, meet with them for lunch and get to know them better.

Collaborating with Colleagues Outside of BYU: I will continue to cultivate my relationships with colleagues from other schools, meet with them at conferences, and collaborate on papers and conference presentations. Also, I will get involved with them on national groups and boards.