Sample 1
IS401—Systems Analysis and Design — Fall 2018

Class time: TTH(F) 9:30-10:45 or 2:00-3:15 210 TNRB
Instructor: Dr.
Office:
Office hours:
Office phone:
Email: @byu.edu
TA Email: 

Section 1 – Xxxxxxx Xxxxxxx: 
Slack Messaging: 
Join here: 

Assignments submitted through Learning Suite

Description
This course covers systematic techniques for analyzing business problems or opportunities, determining if technology can be used to address them, and specifying solutions.

Course Purpose
The purpose of this course is for students to become competent systems analysts (aka IS Business Consultants) by acquiring related soft and technical skills.

Learning Outcomes
- I.O1: Understand frameworks for designing and implementing systems
- I.O2: Create a business case for a systems project
- I.O3: Effectively interview system stakeholders to understand a business system and elicit requirements
- I.O4: Create professional quality models (diagrams) of an existing or proposed system
- I.O5: Create professional quality mockups of a proposed system
- I.O6: Effectively present findings or artifacts from the process of system analysis and design

Course Sequence of Topics
The full schedule of topics and assignments is listed in learning suite, but here is an overview of the order of course topics:
Week 1: Junior Core Scheduled Activity
Week 2: Syllabus and Course Project, SDI.C (I.O1)
Week 3: Interviewing (I.O3), Activity Diagrams (I.O4)
Primary Assessments

In order to gauge your progress with respect to the learning outcomes in the course, you will first learn about a new concept and then progress from formative through summative assessments. Formative assessments are initial tests of your understanding in which you will receive feedback on performing a skill, usually without any deductions, and summative assessments are typical percentage-based assignments and exams. Formative assessments in this class are comprised of open-book quizzes, class exercises, and homework assignments (full points given for completion). Summative assessments will be as follows: Three exams spread throughout the course, one semester-long group project, and the one-week-long integrative exercise. All three exams will include true/false, multiple choice, short answer questions. The first two exams will also include a take home portion that challenges you to solve a problem.

Grade Categories

Grades will be assigned based on achievement in the categories below.
<table>
<thead>
<tr>
<th>Description</th>
<th>Percent of Grade</th>
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<tbody>
<tr>
<td>Homework, Reading Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Participation</td>
<td>10%</td>
</tr>
<tr>
<td>Exam 1</td>
<td>15%</td>
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<tr>
<td>Exam 2</td>
<td>15%</td>
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<tr>
<td>Final Exam</td>
<td>15%</td>
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<tr>
<td>Semester Project</td>
<td>20%</td>
</tr>
<tr>
<td>Integrative Exercise</td>
<td>15%</td>
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Homework and Reading Quizzes: Homework will be primarily completion-based and reviewed in class. Typical homework assignments will involve reading a story problem and then creating an assigned type of diagram from that problem. Quizzes will be open book and related to the readings. They are meant to prepare you for class discussions.

Participation: Each student will automatically be assigned 80% for participation at the beginning of the semester. To have the grade go higher, a student must do the following:

- Do a short group presentation on failed software projects
- Discuss your individual homework solution at least once in class
- Actively contribute to course discussions (ask questions, share experiences, be social)
- Participate in the semester-long group project presentation
- Support other students in their learning and outside of class

On each exam I will ask you to report on what you perceive to be your participation efforts as it relates to this list. I’d also like to take a moment to announce that your verbal (not just physical presence) participation in my class and others will weigh heavily into the discussions that occur about MISM program admissions. Speaking frankly, I think the MISM is of more value to someone that is a clear future leader as evidenced by their class and overall program participation than someone who gets perfect grades but never opens their mouth. Also, one of the highest percentages of jobs for IS graduates is in consulting (a direct off-shoot of this course), and so being willing to interact socially about IS topics is critical.

Exam 1: In-class portion (keywords, concepts, rules) as well as an applied diagramming portion (solve a problem as you would in the real world).

Exam 2: In-class portion (keywords, concepts, rules) as well as an applied diagramming portion (solve a problem as you would in the real world).

Final Exam: Testing center. Keywords, concepts, rules.

Semester Project: Opportunity to demonstrate fulfillment of course purpose by utilizing all course skills.

Integrative Exercise: Opportunity to demonstrate fulfillment of course purpose by utilizing all course skills.

Grading

The Marriott School mandates that the course average may not be higher than 3.6. Usually I raise grades at the end of the semester to meet this average. This semester I’ve made it easier to get 100% on homework and quizzes, so it is possible that I will round down to meet the GPA requirement.
Consequently, I can’t say definitively what the letter grade/percentage breakdown will be. However, I will use the following grade rules as my starting point (prior to any curve adjustments):

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<td>A, A-</td>
<td>94-100%, 90-93.9%</td>
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<tr>
<td>B+, B, B-</td>
<td>87-89.9%, 84-87.9%, 80-83.9%</td>
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<tr>
<td>C+, C, C-</td>
<td>77-79.9%, 74-76.9%, 70-73.9%</td>
</tr>
<tr>
<td>D+, D, D-</td>
<td>67-69.9%, 64-66.9%, 60-63.9%</td>
</tr>
<tr>
<td>E</td>
<td>0 – 59.9%</td>
</tr>
</tbody>
</table>

If you ever have concerns about how I’m grading you, please visit with me about it.

Extra Credit

I encourage you to participate in SONA research activities. You can apply up to 4 research credits at 5 points each (out of an estimated 600 points in this category) to the Homework/Quizzes portion of the class. Hence, you can add up to 20 points to the homework/quiz section.

Additional extra activities will be announced as available. Last semester 5 points were awarded to Homework/Quizzes by following BYU IS on Instagram: Instagram.com/byu_is

Class Mechanics

Each week in class will focus on a new topic related to you becoming a systems analyst (IS business consultant).

- **Before class:** Typically, each new topic will involve one or more readings and an open book quiz
- **In class:** We will discuss the quiz, discuss concepts from the readings, and do activities (typically in groups) that relate to applying the concepts learned in the readings and class discussion. We will end class with a sample question that could be on an exam based on that day’s activities
- **After class:** Typically, there will be a homework assignment that provides practice related to the topic discussed in class. This homework assignment will be reviewed the next day of class.

Course Tools

Students in the BSIS program can participate in the Microsoft Academic Alliance called Imagine. This means that all MS development software is free for student use – both in the lab and on your home personal computer. To download, follow the links at dreamspark.byu.edu. You must be registered in an IS course to have access to this software.

Drawing Tools: All diagrams created in this course must be submitted in a computer drawn format. You may use any drawing tool, but I recommend learning Lucidchart. We will also learn Microsoft Visio because it has historically been the market leader for software and business modeling.

Project Tools: We will use Microsoft Project to develop project schedules for your project. It is expected that you will receive training on this in your project management course, but I also have tutorials available. MS Project is available in the lab and via Imagine.

Homework Policies

Late Assignments: Late homework will not be accepted. It is like the public bus, if you miss it, you have to wait for the next one. With 120 students, I get several daily notices saying “I forgot” for quizzes and homework. Due dates will be clearly posted and consistent. The only exceptions are for major life issues like hospitalization, death in the family, etc.
**Working Together:** Daily homework assignments are to be done individually. You are welcome—and even encouraged—to discuss the concepts. This discussion will often increase your understanding of the course material. However, each person should write his/her own homework using his/her own computer and having his/her own hands on the keyboard. Do not make copies (electronic or paper) of each other's assignments to turn in.

**Marriott School Policies**

Please visit [http://marriottschool.byu.edu/students/classroompolicies](http://marriottschool.byu.edu/students/classroompolicies) for a current description of all Marriott School classroom policies. Some of the highlights include:

- **Academic Honesty:** No cheating, do your own work, or discipline will be applied
- **Grade Distributions:** There are required GPAs listed that depend on the type of class (e.g. junior core)
- **Laptops:** Use only when instructor leads you to so as not to distract others
- **Phones:** Not allowed outside of bags/pockets during class
Below, I list specific goals I would like to accomplish by the end of the FDS program and that are congruent with my longer-term faculty development plan.

1. Organize two department socials
2. Attend informal lunches with colleagues on a monthly basis
3. Participate in at least one research project with a colleague in the department
4. Begin support of department efforts to host a conference in Salt Lake City in 2020
5. Complete term as president of the Association of Business Information Systems
6. Observe the teaching of several colleagues and discuss what I learn
FACULTY DEVELOPMENT PLAN

I. Self-assessment on Teaching

Strengths:

Respectful: I respond with interest and respect in all interactions with students
Compassionate: I organize student socials each semester and work hard to support students individually in labs. They recognize how much I care for them as noted in course evaluations
Knowledgeable: I have a rich professional background in many areas of IS which covers technical skills as well as management of people within that domain.
Enthusiastic: I convey a sense of excitement for the topics that I teach
Creative: I am able to create engaging activities related to course concepts
Organized: I carefully structure courses based on expected learning outcomes. The topics selected are sequenced strategically and each day of class is scripted carefully in a way that resembles the way that a play has a script

Self-assessment of Improvement Opportunities:

Subject Matter Expertise: Some classes I teach currently are well within my capability to master but they are new to me and so I am still developing competence in them
Course Material Selection and Organization: I need to better vet and select learning materials I assign to students
Knowing Students: Although I try to know the name of every student, there are many that I forget after initially learning their names, and they feel like I don’t care about them individually. I can do better in this area.
Integrating Gospel: I have not attempted to integrate the gospel into my courses on a large scale. Having learned how to do that recently, I can now attempt this.
Student Engagement: During class I need to have better activities and questions that will engage them with content and not simply familiarize them with definitions or concepts.
Lecture Quality: My lectures focus too much on PowerPoints currently, and they need to involve more demonstrations, working through problems, alternative media, and student activities.
Confidence: I have projected a lack of confidence during many lectures in the first year as I’ve struggled with understanding what the students want from their instructor as well as feeling uncertain about how to teach content that I haven’t taught before.

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<td>b. Take at least one mini-course (e.g. Udemy) related to the topics I teach</td>
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<td>c. Read industry news weekly related to this content</td>
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<td>d. Evaluate new course content for each day of lecture (e.g. videos, websites)</td>
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<td><strong>Measures for this plan:</strong> Approximately 12 written chapters for this book, at least 5 pages per chapter.</td>
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<td><strong>Measures for this plan:</strong> A statement for each class explaining how many readings or what percentage of readings were updated for each course as well as a report from course evaluations measuring improvement in student perception of course materials organization related to enhancing learning. I will keep course evaluation numbers in a spreadsheet for each course I teach to facilitate comparisons across semesters.</td>
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<td>1. Will attempt to memorize all student names each semester</td>
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<td>Plan</td>
<td>Measures</td>
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</table>
| **Integrate the Gospel**      | 1. Will make a conscious effort during the preparation of each course lecture to identify ways to “bake in” gospel principles so that it meaningfully enhances student learning while also deepens testimonies.  
   *Measure for this plan:* Qualitative and quantitative report for each class, each semester. E.g. “30% of the lectures in the second semester teaching this course had meaningful inclusions of gospel content”
   2. Will hold weekly prayers. Measure for this plan will be a report that it was performed.
   3. Will highlight and have a discussion of BYU devotionals following each devotional. Measure for this plan will be a report that it was performed. |
| **Enhance Student Engagement**| 1. During preparation for each lecture, will seek for ways to engage the students by asking questions or designing activities that require students to apply what they have learned from lower level conceptual concepts (decision-based learning). E.g. “Imagine that you are in the following situation...what do you do...discuss with your group and then later with the class”  
   *Measure for this plan:* Report on quantity/percentage of lectures containing these types of activities across semesters for courses. Also, will use evidence from course evaluations that capture the impact of these activities.  
   2. Invite faculty members to visit class or watch recorded videos of class and give feedback. |
| **Improve Lecture Quality**   | 1. Read at least one book on teaching each year. Measure will be a report on completing this and what I gained from each book that changed how I teach.  
   2. Include more media and on the board diagramming in lectures. Measures will be a summary report on the degree to which such items are included in course lectures. Also, student evaluations will be compared to assess perceived improvement in lectures. |
3. Involve more student engagement (see previous goal and plans)
4. Invite faculty members to visit class or watch recorded videos of class and discuss with me their feedback
5. Use a SCOT consultant to evaluate lecture quality and engagement in each course I teach

| Have more confidence | 1. Will master subject matter (see first goal)  
2. Will organize content to just include readings/concepts that I think are important  
3. Will consciously focus on projecting confidence during lectures |

*Measures for these plans*: Be able to report that student comments in course evaluations related to confidence have reduced or disappeared.

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II. Self-assessment on Citizenship and Professional Service

A. BYU Citizenship

As a new member of the department, I have limited opportunities for formal department, college, and university service work. Nevertheless, I enthusiastically pursue the current assignment I have related to conducting department socials. I also attend every department meeting possible and share feedback when I can contribute. I actively participate and prepare for admissions meetings for the undergraduate and master’s programs. I attend informal departmental lunches organized by Dr. Gaskin whenever possible. I support our students by attending several AIS student club activities each year. I also support students in the capstone class by attending every presentation possible, even though I’m not required to be there. I attend graduation activities regularly and wear my regalia. I offer extra credit in my classes to have my students participate in research projects that support the Marriott School. I speak in the PhD prep seminar. Lastly, I actively support recruiting companies that come to campus in their efforts to connect with faculty and hire our students.

Possible areas for improvement: I need to look for ways to be a citizen to the BYU community by doing more than just taking on assigned roles and look for ways to serve the university in ways that are voluntary. I can also look for ways to directly support the research efforts of members of the department.

B. External Citizenship

I currently serve in leadership roles in an association called the Association of Business Information Systems. While at BYU I have served this association as Vice President, Program Chair, and President. Within this organization and its parent organization, the
Federation of Business Disciplines, I have been a positive and public representative for BYU. Although the association and its conference are not considered to be premiere, they (including the parent organization) have a large number of attendees. I have been a competent researcher and leader in their eyes, and my public association with BYU has enhanced their appreciation of our university and the Church of Jesus Christ of Latter-day Saints.

Areas for improvement: Our primary association, AIS, would benefit by having me serve and support it.

Goals:

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</table>
| Do more university service                 | 1. Find a positive initiative to be a part of that is not formally assigned or directly solicited, such as regularly doing Y Serve projects.  
*Measure for this plan*: A report on activity performed |
| Play an active role in the department       | 1. Continue to organize department socials  
2. Attend informal lunches with colleagues  
3. Support the requests of faculty and students related to the IS lab.  
4. Attend all department meetings  
5. Support recruiter visits and collaboration  
6. Collaborate with other Jr. Core faculty to enhance the experience of the Jr. Core courses  
7. Invite colleagues to attend devotionals together  
*Measure for these plans*: A report on activity performed |
| Play an active role in the Business School  | 1. Attend all meetings and socials possible  
2. Attend graduation exercises (in regalia)  
*Measure for these plans*: A report on activity performed |
| Support a colleague in research            | 1. Participate in at least one research project with a colleague in the department  
*Measure for this plan*: A report on activity performed |
| Serve in AIS (Association for Information Systems) | 1. Attend AIS meetings/SIGs and find an area in which to serve  
*Measure for this plan*: A report on activity performed |
| Serve in the Association for Business Information Systems and in its parent the Federation of Business Disciplines | 1. Continue serving as an officer for ABIS  
2. Have one conference presentation per year at ABIS  
3. Serve in a service or leadership role for the Federation of Business Disciplines  
*Measure for these plans*: A report on activity performed |
III. Statement on relationship between individual goals and department and university aspirations and needs

The Information Systems Department has aspirations and needs that complement those of the business school and the university. Specifically, its mission is to “develop leaders of faith and character who can use, design, implement, manage, and research information systems to make intelligent organizational decisions.” I listed integrating the gospel into my courses and getting to know the students better as personal goals. These goals will help deepen student faith in the gospel of Jesus Christ which will in turn help them develop as leaders of faith. I also included many goals that emphasize the refinement of subject matter expertise and teaching skills. These goals will facilitate the latter half of the department mission which emphasizes student skill development within the Information Systems discipline.

IV. Resources needed to accomplish teaching/professional goals

Resources that I need to accomplish my personal goals at BYU:

- Funding for travel to conferences and relevant professional meetings. As an officer in an academic organization, I need modest funds to support travel. I also wish to serve in our primary association, AIS, which will also require travel funds.
- Software/hardware to support the creation of media related to the courses I teach. I typically make a lot of videos related to topics that I teach so that students can review them outside of class.
- Permission to visit the class of colleagues so that I can review their teaching styles
- Visits to my class by SCOT consultants as well as colleagues that can visit and review my class
- Use resources of faculty center including books (which I hear you can borrow)

V. Accomplishments so far in achieving goals

Initial progress related to my goals:

- I have visited the class of a colleague who is a two-time Bateman Award winner and learned a lot of good lessons that I can use for my teaching to increase engagement and integrate the gospel. I also have had multiple meetings with him to discuss my courses.
- I have written three chapters related to one of my classes that may be included in my proposed systems analysis book project.
- I have read half the book (Network+) for a certification I could pursue related to a class that I teach.
Goals for 2\textsuperscript{nd} Semester Teaching Selected Course

Most of the following goals (except the first one), pulled from the faculty development plan, apply directly to the IS 401 Systems Analysis and Design course.

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| Know Students Better | 1. Will attempt to memorize all student names each semester  
2. In course discussions I will identify students by name when they interact publicly with the class (e.g. when they ask/answer questions, etc.).  
3. Will learn unique facts about them and demonstrate that I remember those facts during class discussions (e.g. “Yes, Jake, champion of the intramural basketball tournament, that is correct”)  
*Measures for these plans:* Will give an estimate of the count/percentage in each of those categories for each course, each semester. The idea is to be able to compare those estimates across semesters for a given course. Will also provide relevant course evaluation numbers that relate to student perceptions of the instructor. |
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Course Development Project for IS 401 – Grant Proposal

1. This first item in my course development plan is meant to improve teaching by having personal conversations with students over lunch about the course that I teach. The IS 401 class has rated less well than other courses in our department for decades. One way to address this is to have personal discussions with students to better understand how they are experiencing the content. In other words, a lunch meeting can be viewed as a weekly course assessment. I did a few of these from personal funds last year and found that it was highly effective. I teach 120 new students each fall in IS 401 and then have them for two or three consecutive semesters. I propose that $166.50 be allocated for Fall semester lunches, which will support 30 students.

2. One activity that I would like to do in class uses rubber balls to teach a technology framework concept called Scrum in which project estimation gets better over time. The activity is based on a published teaching case that I have in my possession. It involves hundreds of rubber balls. I propose to buy a total of 400 rubber balls at a cost of $38.00 before taxes.

3. I typically create many videos to teach concepts in my classes. I would like to purchase Camstasia at a cost of approximately $249.00 to help produce my videos. The balance of funds needed for this purchase will come from my “20” account that is available to make purchases for my classes and research.
Introduction to Project

Although systems analysis and design textbooks have been around for decades, they are widely panned by faculty and students. Most faculty find the content of any given book to be significantly divergent from their own perspectives regarding what is important and how to explain it effectively. From the student perspective, they usually feel pulled in different directions on any given lecture day, with the book saying one thing and the faculty member saying that they significantly disagree with what the book says. The topics covered across all textbooks are generally the same, but the execution of each and every chapter is poor, as evidenced by the average review for all of the top textbooks listed on Amazon. Given my background which includes working professionally in this space, as well as having taught this exact course for nearly a decade, I think I have the necessary background to at least write up five or so pages for each chapter needed for my course.

Details of Project

There are about 12 major topics that I cover each semester in my systems analysis and design course. The topics generally involve a conceptual component as well as a practical/applied component. I propose to write at least five pages for each of the following major topics, giving relevant background to the topic and then explaining with examples how to do (and how not to do) a particular skill.

Major Topics Are:

Systems Development Life Cycle
Planning and Risk Analysis
Interviewing
Class Diagrams
Activity Diagrams
Use Case Diagrams
Sequence Diagrams
User Interface Design
Presenting Findings
Implementation Methodologies
Project Management

Project Strategy
I have several textbooks and a wealth of online materials from which to synthesize the content I wish to create for my book chapters.

I estimate that each 5+ page chapter will take 1-2 days to complete. I plan to focus my attention on this over the summer and have the bulk of this completed before the beginning of fall semester (because I have a new prep in the fall to account for so I won’t have a lot of time for an extra project then).

**Evaluation of Project**

A draft of the systems analysis book will be completed by the end of the fall semester. I will solicit feedback from students using multiple methods, including personal interviews and mid-term and end of semester course evaluation surveys that ask specifically about the usefulness of the content in helping their learning and preparing them for summative assessments. I will also use the formative and summative assessments over the course of the semester to evaluate the effectiveness of the book materials and use that to create a plan for refinement the following summer.
Sample 2
SELF-ASSESSMENT

While growing up, I became passionate about the disparate topics of technology, problem-solving, scientific inquiry, teaching, and the Gospel of Jesus Christ. I have explored these passions in many ways, but nowhere can they be better jointly expressed than as an information systems professor at Brigham Young University. I love what I'm doing and am devoted to the aims of a BYU education to help students achieve their temporal and eternal goals.

Strengths, Skills, and Competencies

One area of particular strength I have is that I doggedly seek to learn and stay up-to-date on emergent new technologies and how their use impacts people, organizations, and society. In nearly every class session, I open the first few minutes to discussion of current events related to technology. I often assign student current event presentations. This helps me to keep up with the changes in my field and adjust curriculum to be relevant to students.

I have been trained and mentored extremely well. I was fortunate in my doctoral studies to be taught by world experts in information systems, research methods, statistical analysis, and psychophysiological recording techniques. This has prepared me well to produce high quality research. In research collaborations, my favorite activities are working through the research design of studies, especially experiments, and developing theoretical argumentation to support testable hypotheses. I have a strong background in techniques, measures, and theories associated with “NeuroIS”, or the application of neuroscience and cognitive psychology to information systems problems. I try to make my research both rigorous and practical and my research has been well-cited in the media.

My path to BYU has taken me through three other universities, each with their own cultures and unique student bodies. The experiences I have gained through teaching a diversity of students and courses have made me a much better teacher and able to work with students with a variety of skills and backgrounds. I have the ability to take complex topics and communicate them in an organized and understandable way to students. Partially this is due to the fact that I constantly refine and adjust my course content, assessments, and learning activities. Every semester, I make changes, often large changes, to improve the quality of the courses I teach. I also experiment with pedagogy to match my capabilities to the ways my student’s best learn. I have had success in balancing difficult academic rigor with fun and enthusiasm in the classroom.

My colleagues have told me that I am collegial and navigate organizational politics well. I try to treat those around me kindly and get to know people. This often takes me out of my comfort zone, because out of the classroom I can be quite shy. I have been in organizations with little collegiality and I know the importance of mutual respect and kindness. Before joining BYU and
in my first year here, I have tried to fulfill my committee and other citizenship assignments promptly and with the goals of the organization and students in mind.

**Interests and Opportunities**

In scholarship, I am fascinated by the broad impacts of information technologies on individual perceptions and behaviors. My main focus area is on how information technology usage both influences and is impacted by individual cognitive and emotional processing. There is a critical mass of researchers in the department working in similar areas which provides ample opportunities to collaboration on projects. One of my goals is to begin projects with department collaborators so that I can leverage the existing capabilities and expertise already here.

In teaching, I have interest in and have taught a variety of courses. My interest in information security helps to inform the changes being made to IS414 as part of my course development project. I have interest and some experience with analytics and this is an area I would like to explore to develop my teaching capability.

**Areas to Develop**

I would like to improve in a number of broad and specific areas including the following:

**Writing speed and consistency** – I think the most important area for me to develop is the ability to write more quickly and to schedule time in to write daily without interruption. I am already working on this goal, but it remains a high priority that will determine future success.

**Turnaround time on resubmissions** – Whether a manuscript needs to be revised for resubmission or needs to be submitted to a different outlet, I would like to decrease my turnaround time. As is common to many scholars, I sometimes work towards the “perfection” of a manuscript instead of getting it into the review process earlier when is most appropriate.

**Better leveraging interactions with students for mutually beneficial goals** – I am still learning how to best interact with research and teaching assistants to help all of us reach our goals. This is an ongoing process that is improving. I plan to track tasks more effectively in the future.

**Statistical and methodological knowledge** – I am strong in some statistical and methodological techniques, but there are others (e.g., collecting and analyzing fMRI data) that I would like to further develop. Fortunately in the department and across the campus, there are excellent colleagues with skills and knowledge that can assist with this development.

**Prioritization** – This is a broad topic that I would guess almost all in the “messy middle” need to constantly consider. Because so many information systems topics are compelling, I need to better focus on the most promising projects and those closest to completion. I also need to revisit work-life balance decisions to make certain that I am prioritizing that which is most important.

**Pipeline** – I have a number of current projects, but would like to develop the pipeline so that there are a manageable number of projects at all of the major stages of the research process.
PROFESSIONAL GOALS

SCHOLARSHIP

My goal is to become a prolific scholar in information systems by publishing impactful research in our top journals. To do this, I will need to capitalize on my strengths above, take advantage of my opportunities, and improve myself as a scholar. The goal of each of my projects must be publication in our elite journals (currently MIS Quarterly, Information Systems Research, Journal of Management Information Systems, and the Journal of the Association for Information Systems). Fortunately, I currently have promising projects to be submitted and have begun projects with new collaborators with plans for more.

Research Plan
My primary goal in the next year is to move each promising project along in my pipeline towards submission. This means that the projects with data collected that are already closest to publication such as unpublished sections of my dissertation, a multi-method project on media mental models, meanings, and perceptions, and an information privacy project are submitted to journals. Next, I need to collect data for several projects. First, I was fortunate to receive a mentoring environment grant (MEG) and this project is ready for data collection. Second, I plan to collect data for additional projects related to technology related cognitive scripts, security breaches, and technology defects. Finally, I have a few projects in the early idea/theorizing stage and would like to work on the literature review and research design. These activities will increase the throughput of my pipeline.

To increase the likelihood of publication, I plan to attend more conferences to network with editors and scholars in my research areas. In addition to that, I plan to seek out early feedback from expert researchers to shape and prioritize my work.

Scholarship Goals
- Hold daily, scheduled, uninterrupted writing time
- Prepare at least one manuscript for submission with a BYU student co-author
- Begin a project with a new collaborator
- Read the abstracts from all papers published in our elite IS journals this year to keep up with new research
- Perform two new experimental data collections
- Submit at least three articles to top-tier IS journals
- Submit manuscripts to at least two conferences.
- Meet editors of elite journals at conferences
TEACHING

My overall goal as a teacher is to provide interactive opportunities for students to think—both inside and outside of the classroom—and to engage with technology. From a philosophical perspective, I have always seen my role as a “meddler-in-the-middle” where I design learning opportunities and provoke, encourage, and facilitate individual thinking while allowing students to wrestle with difficult content. My aspirational teaching goals are to become a better servant leader and inspire students to become greater disciples.

My main efforts in teaching this year will be to take on IS201 as a somewhat new preparation and to completely overhaul IS414 to become an information security course. The latter is an extensive course development project. To succeed, I will see out advice from fellow colleagues and resources on campus. I have good relationships with colleagues who have taught similar courses. Another great learning experience for me is to receive feedback from experienced colleagues. Our department always assigns a faculty member to provide feedback on teaching and I look forward to that feedback in these courses. I also plan to use the student consultants on teaching to give feedback and help improve the course.

Teaching Goals
- Redesign IS414 to focus on information security by developing new materials, exams, and assignments.
- Prepare for IS201 and improve the course through the semester
- Read one book on academic teaching and apply at least one lesson from it to my teaching.
- Solicit feedback from the student consultants on teaching and make changes based on this feedback.

CITIZENSHIP

My department has given me light, but meaningful service responsibilities. I intend to fulfill those assignments within the department and continue my service to the information systems field.

Citizenship Goals
- In my IS news assignment, we successfully transitioned to the new WordPress site. The next activity is to develop a smoother schedule for posting new content and evaluating the traffic information to determine the most effective avenues for promotion.
- Bring in at least one external guest for a research seminar.
- In terms of collegiality in the department, my goal is to better get to know all the IS faculty members.
- As managing editor of AIS Transactions on Replication Research, my goal is to fully implement DOI numbers for the journal and begin the process of getting the journal indexed.
RELATIONSHIP BETWEEN GOALS AND DEPARTMENT AND UNIVERSITY ASPIRATIONS AND NEEDS

I strongly believe in the mission of the university and believe my goals help to further its aims and our department aspirations. Specifically, my goals support this mission by:

**Raising the research profile** - In the BYU Marriott School of Business and the Information Systems Department, one of the main goals is to raise the research profile and improve our rankings. My research goals are designed to do that. I seek to publish in our top-tier journals to increase that profile.

**Better prepare BYU Marriott and information systems students for careers and service in the kingdom** – My new preparation is the information systems content course that all BYU Marriott students are required to take. This class is crucial to students in all of the business disciplines to understand how technology works in their fields and is a strong predictor of success. My other course is one of our IS Core classes and will help all of our students better prepare for the world where information security is an important aspect of nearly all technical jobs. My efforts in these classes are intended to make my courses more spiritually strengthening, intellectually enlarging, character building, and lead to lifelong service. I hope they also contribute to our overarching goal of inspiring learning.

**Serve the information systems discipline** – My department seeks to strengthen the Association for Information Systems and my efforts as managing editor of one of our association’s journals helps that goal.

RESOURCES NEEDED

I am extremely grateful for the resources I have been given. To succeed, I need research participants and a lab, a research assistant, teaching assistants for my courses, and funds for travel and equipment. Thus far, I have been provided with all of these resources through department, college, and university (e.g., MEG) funds. If possible, a single course preparation per semester is also helpful in freeing up time. I have been fortunate to have this time.
COURSE DEVELOPMENT PROJECT

For my course development project, I am completely redoing IS414 to focus ~75% on information security and 25% on business processes and controls. The previous iteration of the course was ~90% business processes and controls and 10% fraud and information security. This is a large project that is still ongoing because the course switched from fall to winter semester.

I have attended a CTL workshop to revise the learning objectives for the course and have been working with Susan Eliason at CTL on this project. She is aware of the course semester change.

Attached is the current version of the IS414 syllabus.
WINTER 2019

IS 414 SECTIONS 01 & 02
INFORMATION SYSTEMS SECURITY AND CONTROLS

**Section 01 Schedule:**

**Section 02 Schedule:**

**Disclaimer:** This syllabus and the schedule of readings, assignments, and activities may be changed by the instructor to maximize student learning needs and meet the objectives of the courses.

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**Instructor & Teaching Assistant Information**

**Instructor:**

**Contact Information:** Location, [E-mail](mailto:byu.edu)

**Office Hours:** TBD

**Course Website:** [https://learnsuite.byu.edu](https://learnsuite.byu.edu)

**Teaching Assistants:** TBD

Teaching Assistant Office hours will be posted on Learning Suite

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**Required Materials**

*TBD*

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**Course Information**

**Course Purpose:**

This course is designed to provide information systems professionals with the information, skills, and insights that they will need to secure organization information and apply controls to business processes.

**Course Description**

This course is a broad introduction to how information flows through an organization and the managerial issues of securing that information. Because security is multifaceted, the topics of the class range widely including technical, managerial, physical, and psychological issues. A key objective of the class is to develop a security mindset, in which one learns to think like an attacker for ways to exploit a system.
The control environment of the business is also discussed. We will look at this environment from both a corporate perspective and from an information systems perspective. Examining control environments necessarily involves assessing the risks that a business faces and the controls set to mitigate those risks.

**Prerequisite**

Admission to the IS Core

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**LEARNING OUTCOMES**

**Develop Understanding of Information Security Principles**
Develop an understanding of confidentiality, authentication, availability, authentication, non-repudiation and how these concepts are applied in modern organizations
- Contributes to program outcome 1. Gain a Knowledge of Information Systems and Business

**Identify Information Security Threats and Vulnerabilities**
To become familiar with attack vectors that are commonly executed in attempting to access and compromise or steal data
- Contributes to program outcome 1. Gain a Knowledge of Information Systems and Business

**Learn Methods of Attack Prevention and Detection**
To learn modern methods of attack prevention and detection

**Evaluate Internal Controls of Business Processes**
Analyze a set of business processes and evaluate the appropriateness and deficiencies of internal controls
- Contributes to program outcome 1. Gain a Knowledge of Information Systems and Business

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**I. GRADING CRITERIA, GUIDELINES, AND ASSIGNMENTS**

**Participation and Professionalism:** Learning is not a spectator sport. Students are expected to come prepared with assignments (e.g., readings, homework, quizzes) completed so they are ready to participate in discussions. Participation will also be assessed during class debates, discussions, and activities. Participation is **NOT** the same as attendance. To earn points for participation, students must actively engage in classroom activities and discussions.
Professionalism also impacts your grade. Students may earn points for outstanding professionalism, but may also lose points for unprofessional behavior such as:

- Rudeness to classmates, teaching assistants, staff, and visiting professionals
- Constant tardiness
- Disrupting class
- Harassing TAs and the professor for additional points
- Any other form of unprofessional behavior

**Attendance:** While points are not assigned for attendance, the class depends heavily upon student attendance. Students who miss significant class time may have their professionalism scored reduced.

**Exams:** Students always report that my exams are more difficult than they expected; plan accordingly! The format of each exam will be announced in-class prior to the exam. All exam dates are listed in the schedule. The Final Exam will be comprehensive. Makeup exams will only be given for legitimate reasons (e.g., documented illness or university excused absence). Students should notify the instructor as soon as possible about missing an exam. There will be NO makeup exams for undocumented or unexcused absences.

**Introduction to Information Security Project:** Many students do not have a deep understanding of information security prior to entering this course. This project will help students learn the basics of information security and how understanding “hacking” can fit into a gospel perspective.

**Group Current Event Presentation:** Information security is a rapidly changing and extensive topic area. To supplement the material in the textbook and familiarize students with additional relevant concepts, each project group is required to give one presentation on a current information security event/topic. These presentations will last a MAXIMUM of 10 minutes and are intended to give students a broader understanding of the topic. Groups will be evaluated on whether they adequately introduce the topic and link it to other course material as well as on creativity and entertainment value. Interactive demonstrations, games, etc. are encouraged. Topics need to be approved by the instructor and link to recent news articles.

**Group Organizational Security Project:** This project is to integrate and apply the knowledge gained through the semester into two deliverables. First, a written report of an organizational security audit or detailed explanation of a security exploit is required. Second, with the increasing use of social media and other forms of electronic communication, it is important for future IT professionals to learn to communicate using these technologies. Each project group will create a “YouTube-style” video (4-12 minutes) to explain the content of the project in an interesting, creative, and engaging way. Please have fun with this. Students may record videos of themselves, capture computer screens, use clips from movies or other videos (educational assignments qualify for fair-use exceptions to copyright laws in the US), animations, etc. when creating their videos. Online video creation websites like PowToon are not prohibited, but student videos made using these sites tend to be poor in quality.
**Group Peer Evaluations:** At the end of the semester, you will evaluate and be evaluated by all members of your group. The objective of this evaluation is to ensure 100% commitment and performance from each member of the team. An individual's score on the group assignments **will be scaled** based on peer evaluations. Please be a productive group member. If group members inform the instructor that a student did not participate in group work, he or she will **NOT** receive points for the work.

**Late Work:** Late work is not accepted in this course unless there are extenuating circumstances determined by the instructor.

**Grading:**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>POINTS POSSIBLE</th>
</tr>
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<tbody>
<tr>
<td>Intro to Information Security Project</td>
<td>50</td>
</tr>
<tr>
<td>Homework/Labs/Quizzes</td>
<td>200</td>
</tr>
<tr>
<td>Group Current Event Presentation</td>
<td>25</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>275</td>
</tr>
<tr>
<td>Group Organizational Security Project</td>
<td>150</td>
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<tr>
<td>Final Exam</td>
<td>300</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>1000</strong></td>
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</table>

**Grade Scale:**

<table>
<thead>
<tr>
<th>GRADE</th>
<th>POINTS</th>
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<tbody>
<tr>
<td>A</td>
<td>93% and higher</td>
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<tr>
<td>A-</td>
<td>90% - 92.9%</td>
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<tr>
<td>B+</td>
<td>87% - 89.9%</td>
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<tr>
<td>B</td>
<td>83% - 86.9%</td>
</tr>
<tr>
<td>B-</td>
<td>80% - 82.9%</td>
</tr>
<tr>
<td>C+</td>
<td>77% - 79.9%</td>
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<tr>
<td>C</td>
<td>73% - 76.9%</td>
</tr>
<tr>
<td>C-</td>
<td>70% - 72.9%</td>
</tr>
<tr>
<td>D+</td>
<td>67% - 69.9%</td>
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<tr>
<td>D</td>
<td>63% - 66.9%</td>
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<tr>
<td>D-</td>
<td>60% - 62.9%</td>
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<tr>
<td>F</td>
<td>Below 60%</td>
</tr>
</tbody>
</table>
# II. Course Schedule*

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Assignment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>08-Jan</td>
<td>Introduction to the Course</td>
<td></td>
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<tr>
<td></td>
<td>10-Jan</td>
<td>Business Cycles - Revenue</td>
<td>Quiz: Revenue Cycle</td>
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<tr>
<td></td>
<td>15-Jan</td>
<td>Business Cycles - Revenue</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17-Jan</td>
<td>Business Cycles - Expenditure</td>
<td>Quiz: Expenditure Cycle</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Intro to Information Security Project</td>
</tr>
<tr>
<td>2</td>
<td>22-Jan</td>
<td>Business Cycles - Production and HR</td>
<td>Quiz: Production Cycle</td>
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<tr>
<td></td>
<td>24-Jan</td>
<td>Business Cycles - Production and HR</td>
<td>Quiz: HR Cycle</td>
</tr>
<tr>
<td></td>
<td>29-Jan</td>
<td>Fraud and Computer Fraud</td>
<td></td>
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<tr>
<td></td>
<td>31-Jan</td>
<td>Controls and Frameworks - Intro</td>
<td>HW: Fraud Methods</td>
</tr>
<tr>
<td>3</td>
<td>05-Feb</td>
<td>Controls and Frameworks - COSO/COBIT</td>
<td>Quiz: Frameworks</td>
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<tr>
<td></td>
<td>07-Feb</td>
<td>Controls and Frameworks - GDPR, Security</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>12-Feb</td>
<td>Threat modeling</td>
<td></td>
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<tr>
<td></td>
<td>13-18 Feb</td>
<td>MIDTERM EXAM in Testing Center</td>
<td></td>
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<tr>
<td></td>
<td>19-Feb</td>
<td>Cryptography - Intro</td>
<td></td>
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<tr>
<td></td>
<td>21-Feb</td>
<td>Cryptography - Block Ciphers and Hashes</td>
<td>Lab: Threat Modeling</td>
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<tr>
<td>5</td>
<td>26-Feb</td>
<td>Cryptography - Asymmetric</td>
<td></td>
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<tr>
<td></td>
<td>28-Feb</td>
<td>Cryptography - Certificates and PKI</td>
<td>Lab: Symmetric Cryptography</td>
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<tr>
<td>6</td>
<td>05-Mar</td>
<td>Vulnerability Scanning</td>
<td>Lab: Asymmetric Cryptography</td>
</tr>
<tr>
<td></td>
<td>07-Mar</td>
<td>Vulnerability Exploitation</td>
<td>Lab: Digital Certificates and PKI</td>
</tr>
<tr>
<td>7</td>
<td>12-Mar</td>
<td>Systems Hardening</td>
<td>Lab: Vulnerability Scanning</td>
</tr>
<tr>
<td></td>
<td>14-Mar</td>
<td>Physical Security</td>
<td>Lab: Exploitation</td>
</tr>
<tr>
<td>8</td>
<td>19-Mar</td>
<td>Authentication - Passwords, MFA</td>
<td>Lab: Systems Hardening</td>
</tr>
<tr>
<td></td>
<td>21-Mar</td>
<td>SQL Injection and XSS</td>
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<tr>
<td>9</td>
<td>26-Mar</td>
<td>Social Engineering and the human element</td>
<td>Lab: Password Cracking</td>
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<tr>
<td></td>
<td>28-Mar</td>
<td>Network Security Monitoring</td>
<td>Lab SQL Injection and XSS</td>
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<tr>
<td>10</td>
<td>02-Apr</td>
<td>INTEX</td>
<td></td>
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<tr>
<td>11</td>
<td>04-Apr</td>
<td>INTEX</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>09-Apr</td>
<td>Information Security in Organizations</td>
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</tr>
<tr>
<td></td>
<td>11-Apr</td>
<td>Information Privacy</td>
<td>Lab: Social Engineering</td>
</tr>
<tr>
<td>13</td>
<td>16-Apr</td>
<td>Security and Society</td>
<td>Organizational Security Project</td>
</tr>
<tr>
<td>14</td>
<td>19-24 Apr</td>
<td>FINAL EXAM in Testing Center</td>
<td></td>
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</tbody>
</table>

* This schedule may be adjusted as the semester progresses. The current schedule will be posted on Learning Suite.
COURSE DEVELOPMENT PROJECT GRANT PROPOSAL

As IS414 has evolved into a much more technical information security course, there has arisen a need for me to demonstrate security exploits and how security professionals can stop or mitigate the risks of these attacks. Because of this, I would like to purchase hardware used by hackers to perform various attacks. This will enable me to better carefully show the students in our lab the dangers of the attacks and how we stop them. If I am not able to purchase “hacking” items with BYU funds, I would like to purchase multi-factor authentication keys (e.g., Google Titan Key, Yubikey, RSA SecurID key) and demonstrate their use.

Here are the items I am considering for the IS414 revamp (not all of which can be purchased using the grant):

Wi-Fi Pineapple Nano
This is a wireless network auditing tool to demonstrate vulnerabilities in wireless networks.
$100

USB Rubber Ducky
This tool is a USB drive that can perform scripting (key injection) attacks.
https://hakshop.com/collections/physical-access/products/usb-rubber-ducky-deluxe
$45

Bash Bunny
This is a different USB drive tool for penetration testing.
https://hakshop.com/collections/physical-access/products/bash-bunny
$100

LAN Turtle
This device is a USB to Ethernet tool for allowing network attacks.
$60

Packet Squirrel
Designed to perform man-in-the-middle attacks in networks
$60

Alpha Network Adapter
Long range Wi-Fi adapter.
$35
Ubertooth One
A Bluetooth hacking tool
https://hackerwarehouse.com/product/ubertooth-one-h/
https://store.ryscc.com/collections/all/products/ubertooth-one
$109-155

Key Logger
To demonstrate keylogging attacks.
https://smile.amazon.com/Keyllama-4MB-USB-Value-Keylogger/dp/B004ZGXU48/?tag=inverse03-20&sa-no-redirect=1#customerReviews
$60

Google Titan Key
Multifactor authentication physical key.
https://store.google.com/product/titan_security_key_kit
$50

Yubikey
Multifactor authentication physical key.
$50
OVERALL, I WANT MY SCHOLARSHIP TO BE MEANINGFUL AND IMPACTFUL BY PUBLISHING THOUGHTFUL RESEARCH IN OUR TOP JOURNALS. I PLAN TO TARGET OUR TOP-TIER JOURNALS (CURRENTLY MIS QUARTERLY, INFORMATION SYSTEMS RESEARCH, JOURNAL OF MANAGEMENT INFORMATION SYSTEMS, AND JOURNAL OF THE ASSOCIATION FOR INFORMATION SYSTEMS) AS MY RESEARCH OUTLETS AND WILL CONSIDER OTHER OUTLETS IF THE TOP FOUR DO NOT WORK. FORTUNATELY, I CURRENTLY HAVE PROMISING PROJECTS TO BE SUBMITTED AND HAVE BEGUN PROJECTS WITH NEW COLLABORATORS WITH PLANS FOR MORE.

RESEARCH PLAN
AS DISCUSSED ELSEWHERE, IN MY PROPOSAL, MY GOAL THIS YEAR IS TO MOVE EVERYTHING IN MY PIPELINE ALONG. PROJECTS CLOSE TO PUBLICATION NEED TO BE PUBLISHED, THOSE WITH DATA COLLECTED NEED ANALYSIS, SEVERAL WITH RESEARCH QUESTIONS AND HYPOTHESES NEED DATA COLLECTION, ETC. MY PLANNED ACTIVITIES DISCUSSED ABOVE WILL INCREASE THE THROUGHPUT OF MY PIPELINE.

I HAVE EXPANDED UPON MY SCHOLARSHIP GOALS BELOW AND INCLUDE STRATEGIES THAT I WILL FOLLOW TO HELP ME MEET THESE GOALS.

SCHOLARSHIP GOALS

- Hold daily, scheduled, uninterrupted writing time
- Prepare at least one manuscript for submission with a BYU student co-author
- Begin a project with a new collaborator
- Read the abstracts from all papers published in our elite IS journals this year to keep up with new research
- Perform two new experimental data collections
  - Data collection for MEG project – by Nov 2018
  - Data collection for security breaches – by January 2019 (secondary data)
- Submit at least three articles to top-tier IS journals
  - “Receiving paper to JAIS – June 2018
  - “Sending” paper to JMIS – September 2018
  - Privacy paper – January 2019
  - Meanings paper – February 2019
- Submit manuscripts to at least two conferences. Our main conference season due dates are April – June. I plan to have manuscripts ready for AMCIS, ICIS, and HICSS by the due dates.
- Meet editors of elite journals at conferences

STRATEGIES OF SCHOLARLY PRODUCTIVITY

IN ADDITION TO THE ACTIVITIES AND GOALS HIGHLIGHTED ABOVE, I WILL BE IMPLEMENTING THE FOLLOWING STRATEGIES TO IMPROVE MY PRODUCTIVITY:

- Attend the SIGHCI meetings associated with AMCIS and join this interest group.
- This will be assessed as a success if I attend and start one project as a result.
  - Associated with my regular writing time, I plan to hold “writing office hours” During the fall semester, these will be in the morning at 9:00 AM. The winter semester hours will be determined after the core schedule is finalized.
    - I will measure this by the percentage of days I successfully write during those hours. These will be tracked in a spreadsheet.
  - Use the faculty editing service twice.
  - Start writing as soon as I begin a new project instead of waiting until I start the literature review.
    - I will assess whether I did this and also evaluate whether it decreased the overall writing time of the project.
  - Report my writing to a writing partner/group.
  - Track my RA task progress more carefully to better utilize their time
CITIZENSHIP PROJECT

My colleagues in the information systems department have excellent rapport and collegiality. We often go to lunch together and there is a high level of collaboration on research and teaching activities. Because of the way our curriculum is structured, especially our IS Core, we are required to collaborate on teaching and have assignments and activities that cross course boundaries.

Even with this, there are three activities I plan to introduce this year to contribute to the citizenship in our department. They all will force me to stretch by stepping outside the comfortable bounds of my office.

1. **Writing Group** – The information systems department does not currently have a writing group where colleagues are accountable for the time they place towards writing and have the ability to gain feedback on writing. I plan to implement a writing group and invite my colleagues to participate.

2. **Internal presentations of research** – This year I have been asked to coordinate our research seminar. This has historically been the one or two invited scholars who chat with our department at a single meeting. We do not have a regular research seminar or “brown bag” where faculty can present to gain early feedback on projects. Implementing this would also give our pre-PhD students an opportunity to present their research, helping them in their PhD applications and preparations.

3. **Outside of work interactions** – As I mentioned, our department does socialize through lunches and department socials. But I do not think there is much interaction outside of the work environment, except at conferences. I plan to engage my colleagues in an out-of-work activity to get to know them better. Of necessity, this will need to be tailored to the interaction. For some, I may invite them to dinner. For others, attending a sporting event together would be appropriate.