**“*Fail Often to Succeed Sooner”: Teaching Students to Be Design Thinkers***

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**1.) Title, Abstract & Keywords:**

***In your abstract, please include a brief session description (not to exceed 100 words), and three to four keywords. If your proposal is accepted, this description will be printed in the conference program.***

**Abstract:**

In this highly interactive session, participants will be introduced to the five phases of the design thinking model of innovation and problem-solving. Participants will learn the key elements of each phase and will have opportunities to practice aspects of design thinking firsthand. Next, two design thinking courses—one 3-day first-year student experience and another full-semester advanced course—will be presented as models for teaching design thinking to college students. Participants will leave the workshop with many resources and tools to support the integration of design thinking within their own courses and programs.

Key words: design thinking, innovation, curriculum

**2)    Teaching Implications:**

***What is the contribution of your session to management pedagogy/andragogy? Specifically, please include your learning objectives, and describe what management and/or teaching topics are relevant to your session, and why.  Also, include theoretical, disciplinary, or theoretical foundations that will help reviewers understand how your ideas fit within the broader field of management.***

We have four specific objectives for the session:

1. Participants will understand the design thinking model and practice some of the steps.

2. Participants will learn about an intensive 3-day design thinking program for first year students

and a full semester advanced design thinking course offered at Bryant University.

3. Participants will understand the value and importance of developing college students’ design-

thinking skills amidst the “changing currents” in higher education and the workplace.

4. Participants will consider how to best incorporate design thinking within their own programs.

The Carnegie Report – *Business, Entrepreneurship, and Liberal Learning* – argues that we need more effective integration of liberal arts education within undergraduate business schools (Colby, Ehrlich, Sullivan, and Dolle,2011). Students engage in a great deal of linear thinking in many specialized business courses. They learn step-by-step approaches to solving problems, developing plans, and executing courses of action. These systematic methods and techniques can serve them well as they enter the workforce. They learn how to establish goals and optimize processes so as to achieve those objectives.

However, students may be ill-equipped to tackle certain challenges and to solve certain complex interdisciplinary problems if they do not develop skills that are enhanced through a liberal arts education. Scholars have argued that a liberal education can help students examine problems from multiple perspectives. By studying the humanities, the social sciences, and the physical sciences, they learn that equifinality characterizes many situations, rather than single, linear cause-effect relationships. Moreover, they learn how to reframe problems, probe assumptions, and analyze alternative solutions critically (Nesternuk, 2012; Herrington and Arnold, 2013).

Some scholars, such as Roger Martin and David Dunne, have argued that design thinking can address some of the shortcomings of traditional business education (Dunne & Martin, 2006). Design thinking is a method for tackling complex, ill-structured problems and developing innovative solutions. As Apple co-founder Steve Jobs argued, design thinking truly sits at the intersection of liberal arts, business, and technology (Johnson, 2011). Martin has argued that effective leaders must be integrative thinkers, and design thinking can enhance one’s skills in this area (Martin, 2007). Integrative thinkers have the ability to hold two opposing ideas in their minds at the same time. Then they do not simply select one idea or the other. They engage in a process of synthesis and integration, resulting often in the generation of new superior options. Martin believes that people are not simply born as integrative thinkers. We can develop these skills in our students, and design thinking offers one mechanism for doing so.

Design thinking can be difficult to teach though. Cognitive biases and dysfunctional team dynamic can interfere with the ability of many students to navigate this approach to solving problems. Moreover, students trained, experienced, and comfortable with linear thinking may become frustrated with the design thinking process. The numerous fits and starts, as well as the frequent requirement to solicit feedback and iterate in a disciplined process, can be very challenging for many business students especially.

Our programs at Bryant have tried to develop the integrative thinking skills of our students through the introduction of design thinking in our curriculum. We have brought together liberal arts and business faculty to develop unique programs that seek to address many of the shortcomings of traditional business education.

Therefore, the purpose of this workshop is twofold: to demonstrate how a university program was executed, using the concepts of design thinking, to foster critical thinking among student participants while enhancing students’ abilities to collaborate, innovate, and reflect; and to illustrate how the same approach laid the foundation for an advance design thinking, one semester course. The ultimate goal is to share lessons learned in developing both the IDEA program and the advance design thinking process course that can be tailored to any classroom setting equally well by adhering to the *process* inherent in the design thinking approach.

**3)   Session Description and Plan:**

***What will you actually do in this session? If appropriate, please include a timeline estimating the activities will you facilitate: how long will they take, and how will participants be involved? Please remember that reviewers will be evaluating how well the time request matches the activities you’d like to do, and the extent you can reasonably accomplish the session’s goals. Reviewers will also be looking for how you are engaging the participants in the session.***

The 90-minute interactive session will include the following components:

1. Opening Activity: The Ball Point Game (10-15 minutes)

At the start of the session, all attendees will stand to participate in the exercise. Depending on the number of attendees, we may organize them into teams. The members of each team together comprise a “system,” and the goal of the exercise is to see how many ping pong balls can pass through the system. The team is awarded a point for each ball that successfully makes it through the entire system. Each team will have two minutes of preparation time to discuss how they will organize themselves and to estimate how many balls they think can pass through the system. Each team should assign someone to keep track of and record how many balls successfully make it all the way through.

There are 5 rules:

* Each ball must have air time.
* Each ball must be touched at least once by every team member.
* Balls cannot be passed to your direct neighbor to your immediate left or right.
* If you drop a ball, you cannot pick it up.
* Each ball must return to the same person who introduced it into the system.

When we say “go,” each team will have two minutes to run the exercise. After it is run the first time, participants will be given one minute to discuss how to improve their strategy. The process will be repeated two more times.

After the three iterations, we will facilitate a short debrief discussion. We have decided to begin with this activity because it highlights a number of key values of design thinking such as prototyping (i.e., rapid trial and error), feedback, iteration, and collaboration. The exercise gets participants active and on their feet at the start and engages them in a game that serves as a natural segue to a broader discussion of the steps in the design thinking model.

2. What is Design Thinking? (30-40 minutes)

Design thinking originated in engineering and design settings, but has quickly become highly valued in business, and much more recently, in educational contexts. Design thinking is a human-centered approach to defining, investigating and solving complex, ill-structure problems. It refers to a systematic process for structuring a problem, gathering information, and generating creative alternatives/solutions (Brown, 2008).

In this portion of the workshop, we will present the steps of the design thinking model. Handouts with diagrams, key points about each step, and information on where to locate online resources will be distributed to participants. Through the integration of short video clips, brief hands-on exercises, examples, and visual aids, participants will delve into the design thinking model.

The design thinking process unfolds in five phases: *empathize*, *define*, *ideate*, *prototype*, and *test* (d.School – Stanford University, 2011). In the *empathize* phase, design thinkers conduct extensive fieldwork (observations, interviews) to understand the experiences and values of the people for whom they are designing (i.e., the users). In the *define* mode, the empathy-based fieldwork is used to frame a meaningful and targeted problem statement (design challenge). During the *ideate* phase, design thinkers “go wide” and explore a wide variety of solutions. Brainstorming is the hallmark of the *ideate* phase. Next, design thinkers begin to *prototype*. In this step, ideas are transformed into physical models that can be presented to users who can interact with them firsthand. Finally, in the iterative *test* mode, we gather feedback from users that fuels the refinement of prototypes and solutions.

During this segment, workshop participants will be given tips on how to conduct successful interviews and observations, watch a video excerpt of a comedic “interview gone wrong”, receive guidelines on “brainstorming rules,” participate in an actual fast-paced brainstorming session, consider how the improvisational theater rule of “yes, and” facilitates design thinking, learn how to craft insights and “how might we questions”, and see sample prototypes and low-cost experiments, among other elements.

3. Two Models for Teaching Design Thinking in College: The First Year IDEA Program & An Advanced Course in Design Thinking at Bryant University (20 minutes)

Once the participants have developed an understanding of the steps of design thinking, we will share two models for how we have incorporated design thinking within our curriculum at Bryant University: an intensive first year experience and a full-semester upper level advanced course in design thinking.

The university is currently in its fifth year of offering a required, 1-credit design thinking experience for first year students called the **I**nnovation and **D**esign **E**xperience for **A**ll (IDEA) Program. This immersive, 56-hour, 3-day course takes place at the end of January before the spring semester commences. First year students are organized into cohorts of 25 and assigned a faculty mentor, staff mentor, upperclassman mentor, and a university alumnae mentor. Throughout the program, students participate in workshops to help them develop the skills to be successful design thinkers. They then work in teams to apply the design thinking model to real-world, field based problems that match their interests. (See attached IDEA Syllabus).

This fall, an upper level design thinking elective course aimed at juniors and seniors was added to the curriculum. As design thinking is situated at the intersection of business and liberal arts, the course is co-taught by a Management professor and a Psychology professor. In this hands-on course, students learn and apply the design thinking process while simultaneously developing an understanding of the psychological principles that underlie innovative thinking and problem-solving. This course builds explicitly upon the introduction to design thinking that students received during the first year IDEA program. While students are introduced to the phases and principles of design thinking over three days during their first year in college, this advanced course provides more in-depth training and extensive opportunities for in-depth fieldwork, multiple prototypes, experimentation, and iteration. Students work in teams on an authentic project of high importance to the client, who is a corporate sponsor for the course. Ultimately, there is a competition and prize money is awarded to the teams whose solutions are most innovative. (See attached MGT/PSY 440 Design Thinking Process syllabus for more detail including learning objectives.)

In this segment of the workshop, participants will be given copies of the syllabi from both courses (see attached). Photographs of student work, a sample student learning blog, and other artifacts from both courses will be shared to help bring the courses to life for workshop participants. Also, a video overview of the first year IDEA program and a video of a student reflecting on his experience in the IDEA program will be shown.

4. Why Teach Design Thinking and How Can You Incorporate It Within Your Program? (10 minutes)

In the concluding segment of the workshop, we will describe a clear, literature-based rationale for teaching design thinking to college students and will highlight the numerous benefits that stem from developing as a design thinker. We will also provide a set of guidelines for navigating the use of design thinking as educators based on additional design thinking experiential team initiatives from Management, Organizational Behavior and Team Building classes.

We will end with an invitation for attendees to (1) share ways they may already be infusing design thinking within their curriculum and (2) if not already doing so, consider the best ways to potentially integrate design thinking within their own courses and programs.

**4.)   Application to Conference theme:**

**How does your session fit with the overall OBTC theme of*Navigating the Changing Currents*?**

This proposed session fits nicely with two main themes for the conference. First, it speaks directly to the issue of designing effective classroom experiences for our students in the changing academic environment. Our design thinking programs have tried to deliver experiential learning in a new way. We have focused on building skills and applying those skills concurrently in a true learning-by-doing fashion while working on significant design challenges. Many courses continue to teach skills first, and then move toward application and experiential learning in subsequent modules. In the advanced design thinking process seminar, we have tried to build learning experiences that integrate skill building throughout the teaching of important concepts and skills. We have gone so far as to explore the psychological principles behind design thinking while students actually complete a complex project for a client.

Second, we believe this session fits with the theme of generating dialogues related to the changing role of the educator. Our session will discuss why our first-year program has chosen to use the word “mentor” explicitly, rather than instructor, to describe the role of those working with our students. Moreover, we have moved beyond one instructor teaching a class of students. We brought together faculty, staff, other students, and alumni to mentor first-year students in our IDEA program. Each of these constituents brought a unique perspective and played an important role in guiding our students during this experiential learning process. In our upper-level course, we tackled team teaching, bringing together a management professor and a liberal arts professor. They teamed up closely with two executives from our client for the course project. The executives did not simply meet on occasion with our students. Instead, the faculty integrated them fully into the course design. These executives came to class regularly, offering feedback and insight to our students, and gathering ideas from them. Based on this integrated, innovative teaching approach, the two faculty members learned a great deal about the value and the challenges of team teaching, and we intend to share those with the participants in this proposed workshop.

**5.)    Unique Contribution to OBTC:**

*Have you presented the work in this proposal before? If so, how will it be different? Is this proposal under current review somewhere else? If so, please explain. How will your proposal be different for the OBTC conference?*

We have not presented this body work at OBTC or at any other conferences. An earlier version of the IDEA program was presented at the Academy of Management Teaching and Learning Conference in 2012. However, since that time, there have been a number of substantial changes that have advanced our understanding of the teaching of design thinking skills and knowledge. First, the University IDEA Program has evolved through several prototype versions applying design thinking principles. Second, the original Academy presentation did not include the recent creation of the advanced interdisciplinary design thinking course. Finally, our presenting team for this conference have experimented over the past fin incorporating design thinking practices in their on-going undergraduate management, organizational behavior and team building courses. Our goal is to share these valuable experiences in advancing other instructors’ educational opportunities.

**References**

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| **newlogo** | **Bryant IDEA black and gold** |

**IDEA: Innovation and Design Experience for All**

**January 23-25, 2017**

**Course Overview**

Increasingly, organizations of all kinds have adopted many practices from the field of design to enhance their innovation capabilities. Design thinking refers to an approach to defining, investigating, and solving complex, ill-structured problems. The design thinking process truly sits at the intersection of business and the liberal arts, as people such as Apple founder Steve Jobs have so eloquently explained. Design thinking does not just represent a concept. It refers to a systematic process for structuring a problem, gathering information, and generating creative alternatives/solutions. That process unfolds in three broad phases:

1. **INSPIRE** – In the initial phase, teams define an innovation challenge, conduct observational research in the field, and form insights based on their observations and interviews.
2. **IDEATE** – In the second phase, teams frame opportunities for further exploration and engage in group brainstorming.
3. **IMPLEMENT** – In the final phase, teams pitch their ideas to colleagues and receive constructive criticism. They build multiple prototypes, using feedback to improve during each iteration of their work.

The IDEA course consists of an intensive, experiential learning experience in which we will apply the design thinking process to “real world” problems. You will learn about ***the innovation process in a true learning by doing mode***. Specifically, you will learn about two key elements or building blocks for creating new innovations in any field: ***design thinking and teamwork***. As part of this approximately 56-hour intensive experience, you will work in teams on projects covering a range of “real world” situations, ranging from the arts to social services to business. Each team has been assigned to a project, based on the ranking of preferences that took place in the fall semester.

You will practice elements of the design thinking process and work in teams to come up with creative solutions to the problems put before you. Faculty, staff, student, and alumni mentors will coach and mentor the teams during the process. Throughout this hands-on experience, faculty members will lead a series of workshops that will teach you about key elements of the innovation process, so that you can then apply those practices and techniques immediately to your projects.

The design thinking process does not take place inside the mind of an individual. It represents a collaborative process, with a team of individuals working to gather information, generate ideas, and build prototypes. Therefore, you will learn about several important techniques for improving team effectiveness. Moreover, you will learn how to lead teams successfully.

**Learning Objectives:**

The IDEA course aims to excite you about the topic of innovation generally, and about a specific set of interdisciplinary ideas or topics that you might investigate further during your future years at Bryant. In addition, the IDEA course aims to promote higher levels of faculty-student engagement and to create relationships that will last throughout your time at Bryant (and beyond).

IDEA represents a key component of the Gateway program for all first-year Bryant students. As such, we will be striving to achieve the broad learning objectives that all aspects of the Gateway seek to address. These Gateway objectives are:

*Effective Communication:*

* You will demonstrate the ability to effectively develop and express ideas both in writing and orally.

*Critical Thinking:*

* You will exhibit the habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

*Diversity Awareness:*

* You will demonstrate your development of a set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of diverse global, social, cultural, and political contexts.

*Ethical Reasoning:*

* The ability to assess you own ethical values and the social context of problems, recognize ethical issues in a variety of settings.

*Information Literacy:*

* The ability to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.

In addition to the overarching Gateway goals, the IDEA course has four fundamental learning objectives that are the focal points for this three-day intensive course. By the end of this three-day experience, you will learn how to:

1. Adopt the design thinking process to work on tough problems and come up with creative solutions
2. Work effectively as a team to accomplish a challenging task
3. Engage in constructive conflict and debate with other team members
4. Communicate your creative ideas in a concise and clear manner

**Grading**

Student teams must present a final project at the end of the experience, **and** they must turn in a written description of the process that they employed to develop their solution. The final project cannot be in the form of a Microsoft PowerPoint (or Prezi) presentation. Instead, the student teams must demonstrate their solution in a creative manner at the trade show that will take place on Wednesday, January 25th. The trade show starts at 2:00pm and ends at 4:00pm, at which time judges will evaluate the projects. Each team will have a table at the trade show to display their solution. Teams may build a model or prototype, create a video, or develop some other creative way to illustrate their idea. ***You cannot simply present a tri-fold at the trade show (though a tri-fold may be part of your exhibit).*** Think creatively about other ways to present your idea!

At all times during the trade show, two people from your team should be present at your table, prepared to describe the project and process to the judges and other visitors. The judges will be using the rubrics located in this syllabus to evaluate each team. During the trade show, you will be visited by several judges. They will visit you at different times. You will have **no more than eight minutes** with each judge to describe your project/process briefly and answer any questions they may have. When individuals on your team are not working your trade show table, they should be engaged in the following activities: finalizing your written description of the team process, completing their peer evaluation forms, and visiting other teams’ trade show exhibits.

At the 4:30pm closing ceremony, we will announce the results of the judging process. The judges will choose the top three teams. Each member of those winning teams will receive $50 in Bulldogs Bucks. We also would like to reward the cohorts in which these winning teams worked, since all members of those cohorts will have assisted the top teams by providing feedback and input throughout the program. Therefore, the members of those three cohorts will each receive a small Dunkin’ or Target gift card at the end of the program. (In other words, if Team A from Cohort 3 is one of the top three teams, then members of Team A will receive $50 each in Bulldogs Bucks, and all members of Cohort 3 will receive a Dunkin’ or Target gift card).

Each team must turn in a written description of the process that they employed to develop their creative solution. To provide this description, each team will download a form from Blackboard and then respond to a series of questions about their process. In this written description, teams must document how they researched their project, brainstormed together, and refined their prototype through multiple rounds of feedback from mentors and fellow students. Student teams should attach appendices to the completed form with tables, figures, photos, or other supporting data. You must do as much as possible to document your journey, to explain how you arrived at the idea you presented at the trade show. The written description is due by 4:00pm on Wednesday, January 25th. Each student also must submit a peer evaluation sheet, in which they assess the contributions of each of their fellow team members. The peer evaluation form may be found at the end of this syllabus and must be completed and submitted no later than 4:00pm on Wednesday, January 25th.

Students will be graded in the following manner:

* Attendance/Participation 20%
* Quality of Design Thinking Process 35%
* Quality of Final Project 30%
* Quality of Written Assignment 10%
* Completion of Peer Evaluation Form 5%

**20% Attendance and participation throughout the three-day course**

Attendance Policy:

We expect you to attend all IDEA sessions on time and to be prepared. Please handle your attendance in a professional manner. Absences and/or tardiness, for whatever reasons, will affect your class contribution grade significantly. If you are ill or must miss a class due to unusual, extenuating circumstances, or school sponsored activities, it is your responsibility to notify the instructor and your team members **prior to class by email**. You will have to make up the work that you missed, particularly with respect to your contribution to the team project. Each team member will evaluate the contributions of his or her peers at the end of the project. Failure to do your share on the project will have a serious adverse effect on your grade. ***Please note that failing this course will require re-taking the course in your sophomore year.***

Participation Policy:

Learning is not a spectator sport. Students do not learn much just by sitting in workshops and team meetings listening to their mentors and peers, memorizing what a presenter may have said, and regurgitating answers. You must talk about what you are learning, relate it to past experiences, and apply it to your projects. The standard that will be applied in assessing your participation during workshops and team meetings will be:

* "Did a student’s participation contribute to the team dialogue and advance the work being done to complete the project successfully?”

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| **Attendance and Participation Rubric** | | |
| **Score** | **Level of**  **Contribution** | **Behavioral Examples** |
| 1 | Unsatisfactory Contributor | Absent for the session. If present, this person is not prepared. When called upon, is not conversant with the assigned course material or is unprepared for the discussion or group work. Student also may be a disruptive influence through inappropriate behavior, such as coming late or leaving early. |
| 2 | Non-Participant | Present but consistently does not speak or says little. Little evidence to make an adequate evaluation. |
| 3 | Adequate Contributor | Contributes to the discussion and group task. Demonstrates satisfactory preparation. Sometimes offers substantive, useful insights. Seldom offers new direction for the discussion. Offers information directly without elaboration; shows a basic knowledge and comprehension of material and sometimes persuasive in one’s arguments. |
| 4 | Good Contributor | Offers usually substantive insights. Demonstrates thorough preparation. Goes beyond the facts as presented and tries to understand their implications. Usually spurs discussion in a new direction. Usually offers analysis and an assessment of the material. Usually suggests new ways of thinking about material; makes connections to other sources (e.g., workplace, business press, or personal examples). Often persuasive in one’s arguments. |
| 5 | Outstanding Contributor | Makes important contributions to the workshops and team discussions. Demonstrates exceptional preparation. Offers substantive insights. Offers analysis, synthesis, and evaluation; consistently suggests new ways of thinking about material; makes connections to other sources. Frequently spurs discussion in new and interesting directions. |

*Participation: Suggested Ways to Contribute:*

* Come to workshops and team meetings prepared to ask and respond to questions.
* Participate actively in team activities.
* Link course theories and concepts to the project work.
* Ask critical questions or seek clarification on confusing topics.
* Cite personal examples relevant to the workshop material or project.
* Play the devil's advocate in a constructive manner during a workshop or team meeting.

**35% Quality of Team Process**

The team’s **PROCESS** is **AS IMPORTANT** as the project/solution that you create. You must demonstrate that you have employed the design thinking process to develop your concept. We will evaluate your team’s process based on three criteria.

* Did you conduct good research, both in the field and on campus, related to your project (versus gathering little evidence, jumping to conclusions based on prior assumptions and beliefs, and relying primarily on personal experience)?
* Did you engage in an effective brainstorming process (versus rapidly converging on one idea and failing to consider a wide array of alternatives)?
* Did you engage in an iterative process, using feedback to refine and improve your idea on multiple occasions (versus not using feedback to adapt and enhance your team’s solution)?

Each criterion will be evaluated on a 1-7 scale (1 = incomplete/unacceptable and 7 = excellent). Each criterion will be weighted equally. Faculty members will complete the grid below for each project to determine an overall grade for the team. Then the faculty members will use the data from the peer evaluations to adjust individual grades up or down accordingly (i.e. someone whose peers evaluated as going above and beyond expectations would receive a higher grade than the overall team grade, while someone who did not fulfill their obligations to their team members will receive a lower grade than the overall team score).

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|  | 1  Unacceptable | 2  Poor | 3  Fair | 4  Adequate | 5  Good | 6  Very good | 7  Excellent |
| Quality of Research & Field Observation |  |  |  |  |  |  |  |
| Effective Brainstorming |  |  |  |  |  |  |  |
| Iterative Process (Multiple revisions based on feedback) |  |  |  |  |  |  |  |

**30% Quality of Team Project**

We will evaluate your final output (presented at the trade show) based on four criteria.

* Does your concept/solution meet the needs of users? Is it desirable to them?
* Is your concept/solution original and creative?
* Is your concept/solution feasible and viable? (technically and financially)
* Did you create a high quality, creative trade show exhibit to demonstrate your idea?

Each criterion will be evaluated on a 1-7 scale (1 = incomplete/unacceptable and 7 = excellent). Each criterion will be weighted equally. Faculty members will complete the grid below for each project to determine an overall grade for the team. Then the faculty members will use the data from the peer evaluations to adjust individual grades up or down accordingly (i.e. someone whose peers evaluated as going above and beyond expectations would receive a higher grade than the overall team grade, while someone who did not fulfill their obligations to their team members will receive a lower grade than the overall team score).

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|  | 1  Unacceptable | 2  Poor | 3  Fair | 4  Adequate | 5  Good | 6  Very good | 7  Excellent |
| Meets Needs of Users |  |  |  |  |  |  |  |
| Original/Creative Solution |  |  |  |  |  |  |  |
| Feasible/Viable Solution |  |  |  |  |  |  |  |
| Quality/  Creativity of trade show exhibit |  |  |  |  |  |  |  |

**10% Quality of Written Assignment**

Each team must turn in a written description of the process that they employed to develop their creative solution. To provide this description, each team will download a form from Blackboard and then respond to a series of questions about their process. In this written description, teams must document how they researched their project, brainstormed together, and refined their prototype through multiple rounds of feedback from mentors and fellow students. Student teams should attach appendices to the completed form with tables, figures, photos, or other supporting data. The executive summary is due by 4:00pm on Wednesday, January 25th. The faculty members will evaluate this written assignment based both on the content of the memo, **as well as the quality of the writing.**

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| **Written Assignment Rubric** | | |
| **Score** | **Level of**  **Contribution** | **Behavioral Examples** |
| 1 | Not submitted on time. | Failure to submit the written form by 4:00pm on January 25, 2017. |
| 2 | Below Expectations | Does not explain team’s process in a clear and concise manner. Fails to provide evidence documenting the key steps of the process. Contains multiple spelling and grammatical errors. Fails to provide proper citations. |
| 3 | Meets Expectations | Provides a clear explanation of the team’s process. Offers some evidence documenting key steps of the process. Contains no more than one spelling or grammatical error. Provides proper citations. |
| 4 | Exceeds Expectations | Offers a comprehensive and detailed explanation of the team’s process. Provides thorough evidence to document the group’s process. Contains no spelling and grammatical errors. Provides proper citations. |

**5% Completion of the Peer Evaluation Form**

Each student must complete the peer evaluation form posted at the end of this syllabus. You must submit your form no later than 4:00pm on Wednesday, January 25, 2017. You can earn 5 points toward your final grade (on a 100 point scale) simply by completing the peer evaluation. The scores that you provide will be used to determine the final grades of all group members on the team project.

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| **Peer Evaluation Form Rubric** | |
| **Score** | **Work Accomplished** |
| Full credit | Completion of the Peer Evaluation Form by 4:00pm on January 25, 2017. |
| No credit | Late submission or failure to submit peer evaluation form. |

**Team Assessment and Peer Evaluation Form**

Please take a few moments to complete this survey about your team’s effectiveness during the IDEA course. We encourage you to be completely frank about the contributions of each member of your team. We will use this peer assessment to help determine the grade that each individual deserves in this course. Please be assured that all ratings and comments will be kept completely confidential.

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cohort # \_\_\_\_\_\_\_\_\_\_\_\_\_ Team \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**To begin, please rate the team as a whole using the 1-7 scales shown below:**

***This team experience illustrates how a group of people can work together to accomplish more than any one of us could have accomplished alone.***

1 2 3 4 5 6 7

Disagree completely Agree completely

***This team integrates its skills and knowledge - sharing information and opinions - very effectively.***

1 2 3 4 5 6 7

Disagree completely Agree completely

***I suspect that this team could be performing better than it is.***

1 2 3 4 5 6 7

Disagree completely Agree completely

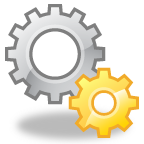
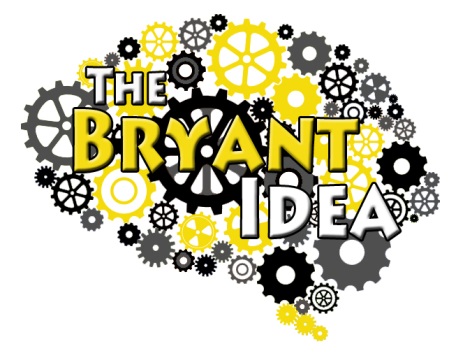
***I would prefer to work with some other group of people, rather than this particular team, if I actually had to complete important projects in the workplace with a team.***

1 2 3 4 5 6 7

Disagree completely Agree completely

Finally, and most importantly, ***please allocate 100 points among all members of your team (including yourself) in a manner that reflects each person’s contribution to the overall group output.*** For instance, if there are five team members, and each person contributed equally, then each person receives 20 points. However, I encourage you to seriously consider providing unequal allocations of points if the situation warrants it. For instance, you may have some members who clearly went above and beyond the contributions of their peers, or you may have some members who clearly did not contribute as much as expected to the team’s output. In the space below, please list the names of all team members (including yourself), along with your point allocations. Please be sure the points add up to 100 (no more, no less). Please provide written comments to support your numerical allocations.

|  |  |  |
| --- | --- | --- |
| **Name** | **Percentage** | **Comments** |
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| **Total =** | **100%** |  |

**2017 IDEA Program**

**Student Schedule**

**Sunday January 22nd**

12 – 9pm **Resident Student IDEA Program Check-In** (Hall 14, 15, and 16)

5 – 7pm **Dinner** (Salmanson)

**Monday, January 23rd**

7:30am **Breakfast** (Salmanson)

8:00am – **Commuter Student IDEA Program Check-In** (Chace Wellness Center Lobby)

8:45am

9:00am **Meet Your Mentors and Check-In** (MAC)

9:15am **Opening Activity and Introduction to IDEA 2017** (MAC)

9:45am **Cohort Introductions** (Cohort Room)

10:30am **Design Challenge** (Cohort Room)

11:30am **Introduction to the Design Thinking Process** (MAC)

12:00pm –  **Lunch** (Salmanson)

1:30pm **Cohorts 1 – 17:** Lunch at 12:00pm

**Cohorts 18-34:** Lunch at 12:45pm

1:30pm – **Field Research Workshop & Preparations** (Cohort Room)

3:15pm **1:30pm-2:45pm:** Field Research Workshop: Observations & Interviews

**2:45pm-3:15pm:** Project Reveal & Field Research Preparation

3:15pm **Leave Classrooms for Bus Loading Locations**

All other cohorts will board buses in the Commuter/Faculty Staff Parking Lot (LOT A)

EXCEPT Cohorts 1, 2, 13, 18, and 31 – They will board buses earlier in the afternoon at the RIPTA stop near the Chace Wellness Center

MC900383582[1]

3:30pm **Leave Bryant for** **Field Research**

5:15pm– **Bus Loading back to Bryant/Fieldwork Debrief**

5:45pm Your student mentors will direct you when to head back to Bryant

5:30pm– **Dinner** (Salmanson)

7:15pm

7:15pm  **Cohort Mascot Creation** (Cohort Room)

*Each student should bring 5 canned goods to their classroom by 7:15pm*

7:45pm **Field Research Debrief** (Cohort Room)

8:30pm **Brainstorming Workshop** (AIC)

9:30pm **Welcome Back Celebration** (Fisher Center)

See flyer in your folder for more information

**Tuesday, January 24th**

7:30am – **Breakfast** (Salmanson)

9:30am

10:00am **Insights & How Might We Questions** (Cohort Room)

11:00am **Team Dynamics Workshops** (Rotunda, AIC, Bello, Fisher)

1:00pm –  **Lunch** (Salmanson)

2:45pm **Cohorts 18-34:** Lunch at 1:00pm

**Cohorts 1 – 17:** Lunch at 1:20pm

2:45pm **Brainstorming** (Unistructure)

3:45pm  **Story Boarding** (Unistructure)

5:00pm  **Dinner** (Salmanson)

**Cohorts 18-34:** Dinner at 5:00pm

**Cohorts 1 – 17:** Dinner at 6:00pm

7:00pm **Story Board Presentation and Initial Pitch** (Cohort Room)

*You will meet your alumni mentors at this time.*

8:00pm –? ☺ **Prototyping** (Cohort rooms)

Teams will work through the night to begin their prototypes and create their projects!

3pm – 1am **IDEA “Rest and Refresh” Open** (MRC4 and Rotunda)

See flyer in your folder for more information

**Wednesday, January 25th**

7:30am – **Breakfast** (Salmanson)

8:45am

9:00am  **Pitch, Brainstorm, and Revise** (Cohort Room)

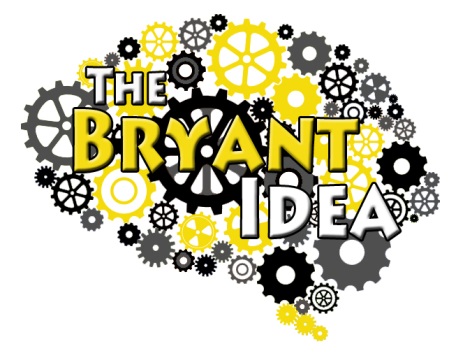
10:00am – **Prototype Refinement and Trade Show Preparation** (Cohort Room)

1:00pm

11:30am – **Lunch Available** (Salmanson)

1:00pm

10am – 1pm **IDEA “Rest and Refresh” Open** (MRC4)

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1:00pm **IDEA Experience and Cohort Wrap-up** (Cohort Room)

1:45pm **Trade Show Setup** (Multiple Locations below)

2 – 4pm **Class of 2020 IDEA Program Trade Show**

**Cohorts 1 – 12**: Rotunda, Unistructure

**Cohorts 13 – 24:** Bello Center Grand Hall

**Cohorts 25 – 34**: Academic Innovation Center

4:30pm  **Class of 2020 IDEA Program Closing** (MAC)

*Please recycle your nametags at the door!*

|  |  |
| --- | --- |
| **newlogo** | **Psychology 440/Management 440**  **The Design Thinking Process**  **Professor Allison Butler**  **Professor Michael Roberto**  **Fall 2016** |

**Allison Butler Michael A. Roberto**

**Associate Professor of Applied Psychology Trustee Professor of Management**

**Faculty Suite J-146 Faculty Suite J-134**

**Email:** [**abutler@bryant.edu**](mailto:abutler@bryant.edu) **Email:** [**mroberto@bryant.edu**](mailto:mroberto@bryant.edu)

**Phone: 401-232-6803 Phone:  401-232-6155**

**Class Schedule Office Hours**

Monday 2:00pm-4:40pm Prof Butler: MWF 11-12 & WF 4-5

AIC 131 Prof Roberto:M 10-12; Tu 10-11:30; Th 2-3:30

**Course Overview**

In this hands-on course, you will have an opportunity to learn and apply the design thinking process while simultaneously developing an understanding of the psychological (cognitive, behavioral) principles that underlie innovative thinking, problem-solving, and gamification. This course builds explicitly upon the introduction to design thinking that you received during the IDEA program. We will learn how design thinkers embrace a “test and learn” and “build to think” philosophy toward innovation.

You will learn how to define a design challenge, conduct field research, and craft insights from your observations and interviews. In addition, you will learn how to brainstorm potential solutions, develop storyboards, design experiments to test your ideas, and use prototyping to refine and improve your solutions. Throughout the course, you will have an opportunity to practice these skills with your faculty members and classmates, as well as to apply these skills to an innovation project.

For this semester, our client is \_\_\_\_\_\_\_\_\_. This firm has identified a major problem with regard to its customers. We will use the design thinking process to tackle this project. You will work in teams throughout the semester, guided by your faculty members and in close collaboration with your consulting client.

We will learn about and practice design thinking skills through a variety of teaching and learn methods including experiential exercises, group activities, and case studies. In addition, we will spend a great deal of time out in the field as part of our practice as well as our actual project work. In short, we will learn by doing (and reflecting) throughout this semester.

**College/Departmental Learning Goals**

This interdisciplinary course addresses a number of B.S. in Business Administration and Applied Psychology learning goals, as shown below.

**Bachelor of Science in Business Administration Learning Goals**

Goal 1: Leadership

Graduates of the Bryant Bachelor of Science in Business Administration program shall demonstrate leadership skills by (1) having the ability to work in and/or lead groups of individuals from diverse backgrounds and (2) having the ability to communicate effectively. ***Aligns with course objective 1.***

Goal 2: Innovation and Problem Solving

Graduates of the Bryant Bachelor of Science in Business Administration program shall (1) have the ability to develop innovative solutions to complex problems and (2) have the ability to use information technology to analyze and solve business problems effectively. ***Aligns with course objectives 1, 2 & 3.***

Goal 3: Ethics

Graduates of the Bryant Bachelor of Science in Business Administration program shall be aware of ethical business practices and shall have a personal philosophy for making ethical business decisions consistent with that of an individual of character. ***Aligns with course objectives 1 & 4.***

**Department of Management Learning Goals**

5.1.C.c. Recognize the interactions of organizations with the environment, technology, human resources. ***Aligns with course objective 1, 3, & 4.***

5.1.C.e. Identify the human issues in the workplace and describe their impact on organizational effectiveness. ***Aligns with course objective 1, 3, & 4.***

6.1.C.b. Identify the role of the external environment in formulating management strategy and making decisions. ***Aligns with course objective 1.***

**Department of Applied Psychology Learning Goals**

There are five departmental learning goals are consistent with the American Psychological Association (APA)’s goals for undergraduates studying psychology. Of the five goals, the ones that are addressed in this course are:

Goal 1: Knowledge Base in Psychology

Students will demonstrate fundamental knowledge and comprehension of the major concepts, theoretical perspectives, historical trends, and empirical findings to discuss how psychological principles apply to behavioral problems. ***Aligns with course objectives 2, 3, & 4.***

Goal 2: Scientific Inquiry & Critical Thinking

Students will develop scientific reasoning and problem-solving skills, including effective research methods. They should engage in innovative and integrative thinking and problem-solving. ***Aligns with course objectives 1, 2 & 3.***

Goal 4: Communication

Students will demonstrate competence in writing and in oral and interpersonal communication skills. They should produce a research study or other psychological project and present information to a professional audience. ***Aligns with course objective 1.***

Goal 5: Professional Development

Students will apply psychology-specific content and skills, practice effective self-reflection, demonstrate project-management and teamwork skills, and engage in career preparation. ***Aligns with course objective 1.***

**Course Objectives**

1. You will know, understand, and be able to apply the steps of the design thinking process. Specifically, you will:
   1. Define a design challenge
   2. Conduct field research in the form of observations and interviews
   3. Identify and research the behavior of extreme users
   4. Craft insights from your field research
   5. Brainstorm ideas with a team
   6. Storyboard so as to expand and explain ideas
   7. Design experiments to test ideas
   8. Develop multiple prototypes to test and refine ideas
   9. Work closely on a team for a consulting client on a design thinking project
2. You will be able to identify and explain low- and high-level executive function skills (e.g., inhibition, shifting/cognitive flexibility, working memory, planning, decision-making, problem-solving) that underlie the key phases of the design thinking process.
3. You will be able to identify and avoid the cognitive obstacles that can hinder effective observation and problem-solving.
4. You will be able to apply principles of behavioral learning (i.e., operant conditioning) and human motivation to *gamification—*the integration of game elements in non-game problems, such as a business challenge.

**Course Format**

This course will take a workshop-style format in which all students will be expected to actively engage in whole class and team learning activities, fieldwork, design, and discussion. Students will be organized into six teams of five students each. Learning and instruction will take place in the classroom, in the AIC forum, and out in the field. Each week, we will focus on a particular phase of the design thinking process.

**Required Course Materials**

The course readings are listed in the table below. Most readings may be found on the course Blackboard site. In addition, you must purchase several case studies directly from Harvard Business Publishing for a total cost of $18. You should purchase those case studies immediately. Here is the link for that course-pack: <http://cb.hbsp.harvard.edu/cbmp/access/51379986>

**Partnership with [Corporate Sponsor/Client]**

Representatives from \_\_\_\_\_\_\_ will attend our class on the dates marked with an asterisk (\*) on the schedule below. In addition, each design team will be paired up with an executive mentor who can be contacted throughout the course for feedback and guidance. To streamline communication with executive mentors, teams will designate one student as the primary client liaison throughout the semester.

|  |  |
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| **Week** | **Topics and Reading Assignments** |
|  | **MODULE 1: Introduction to Design Thinking** |
| 9/12  Week 1 | **Introduction**  **Readings:**   * IDEO Human-Centered Service Design (HBS Multimedia Case); accompanying video content found here: <http://eproduct.hbsp.harvard.edu/eproduct/product/m_ideo/content/index.html> * “Design Thinking”, by Tim Brown, *Harvard Business Review* (2008) * “Informing our Intuition”, by Jane Fulton Suri, *Rotman Magazine* (2008) * Razzouk, R. & Shute, V. (2012). What is design thinking and why is it important? *Review of Educational Research, 82*(3), 330-348.   **In-Class Work:**   * Team Challenge   **Assignment Due** (by Sat., Sept. 10th 6:00pm):   * Assignment #1 * Student Information Sheet |

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|  | **MODULE 2: Inspiration Phase of the Design Thinking Process** |

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| 9/19  Week 2 | **Field Research Skills; Perception, Information Processing, & Cognitive Bias**  **Readings**:   * “Mindsets” & “Inspiration” sections of the HCD Toolkit * Stanford Design School Bootcamp Bootleg, pages 1-12 * Michael A. Roberto. 2009. *Know What You Don’t Know*, Chapter 3. Upper Saddle River, NJ: Pearson Publishing. * Richard H. Thaler & Cass R. Sunstein. 2009. *Nudge: Improving Decisions about Health, Wealth and Happiness*, Chapter 1. New York, NY: Penguin Books.   **In-Class Work:**   * Perception discussion & activities: selective attention, inattentional blindness, priming, perceptual set, top-down processing * Information processing discussion & activities: multi-store memory model of human cognition, encoding failures * Cognitive biases discussion & activities: intuition, availability bias, confirmation bias, belief perseverance * Interview skills, observation skills, extreme user research * Announcement of Design Teams   **Assignment Due:**   * Blog Entry #1 |
| 9/26\*  Week  3 | **Field Research Skills**  **Readings:**   * Ten Tools for Design Thinking (by Jeanne Liedtka & Timothy Oglivie) * Lord, C., Ross, L., & Lepper, M. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology, 37*, 2098-2109. * Loftus, E. (1975). Leading questions and the eyewitness report. *Cognitive Psychology,* *7*, 550-572. * Design Thinking and Innovation at Apple (HBS Case) * How Indira Nooyi Turned Design Thinking into Strategy, HBR, 2015. * Article assigned by Client: TBD   **In-Class Work:**   * Client class visit and introduction of the problem * Fieldwork preparation * Design thinking case discussion   **Assignment Due:**   * Team Photo & Team Name * Blog Entry #2 * Team Memo #1: 2-page memo (w/links to perception, information processing, and cognitive bias) about research practice undertaken on campus |
| 10/3  Week  4 | **Field Research Skills & Project Kickoff; The Psychology of Gamification**  **Readings:**   * Dale, S. (2014). Gamification: Making work fun or making fun of work? *Business Information Review, 31*(2) 82-90. * Deterding, S., Dixon, D., Khalled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining ‘gamification’. *Proceedings of the 15th International Mind Trek Conference: Envisioning Future Media Environments*, 9-15. * Milkman, K., Rogers, T., & Bazerman, M. (2010). I’ll have the ice cream soon and the vegetables later: A study of online grocery purchases and order lead time. *Market Lett, 21*, 17-35. * Ravert, R., & Gomez-Scott, J. (2015). Why take risks? Four good reasons according to emerging adult college students. *Journal of Adolescent Research, 30*(5), 565-585.   **In-Class Work:**   * The psychology of gamification (operant conditioning, motivation) * Delay of gratification * Risk taking in late adolescence and emerging adulthood * Fieldwork check-in (“gallery walk”); Determination of additional fieldwork to be done   **Assignment Due:**   * Blog Entry #3 |

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|  | **MODULE 3: Ideation Phase of the Design Thinking Process** |
| 10/17\*  Week  5 | **From Observation to Insight**  **Readings:**   * HCD Toolkit, pages 75-84 * Stanford Design School Bootcamp Bootleg, pages 14-25   **In-Class Work:**   * Fieldwork presentations and feedback from Client * Crafting insights based on the fieldwork * Developing “How Might We” questions   **Assignment Due:**   * Blog Entry #4 * Team Memo #2: 2-page memo and 10-minute presentation on the conclusions from your fieldwork for your project. (Client will attend) |
| 10/24  Week  6 | **Brainstorming; Executive Functions**  **Readings:**   * HCD Toolkit, pages 85-110 * Stanford Design School Bootcamp Bootleg, pages 26-32 * Nemeth et al, 2004. “The Liberating Role of Conflict in Group Creativity: A Study in Two Countries.” *European Journal of Social Psychology*. 365–374. * Diamond, A. (2013). Executive functions. *Annual Review of Psychology, 64*, 135-168.   **In-Class Work:**   * Share insights and “How Might We Questions” with the class * “Yes, and” improvisation exercises * Brainstorming best practices * Practice brainstorming session * Executive functions * Cognitive obstacles that hinder problem-solving and decision-making (mental set, fixation, framing effects, belief perseverance) * Teams hold initial brainstorming sessions   **Assignment Due:**   * Blog Entry #5 * Team Memo #3: 2-page memo and brief presentation describing your core insights and listing “How Might We” questions for brainstorming purposes. |
| 10/31  Week  7 | **From Brainstorming to Storyboarding**  **Reading:**   * HCD Toolkit, pages 111-118 * Richard H. Thaler & Cass R. Sunstein. 2009. *Nudge: Improving Decisions about Health, Wealth and Happiness*, Chapter 6. New York, NY: Penguin Books.   **In-Class Work:**   * Storyboard workshop (3 storyboards) * Preparing to prototype   **Assignment Due:**   * Blog Entry #6 |

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|  | **MODULE 4: Implementation Phase of the Design Thinking Process** |
| 11/7\*  Week  8 | **Prototyping**  **Readings:**   * HCD Toolkit, pages 119-161 * Stanford Design School Bootcamp Bootleg, pages 33-44 * T. Seelig, 2012. “How Reframing a Problem Sparks Innovation” Excerpt from *InGenius: A Crash Course in Creativity.* New York: Harper Collins. * M. Roberto. 2013. “Becoming a Better Devil’s Advocate.” *Why Great Leaders Don’t Take Yes for an Answer*. 2nd edition. (Chapter 6)   **In-Class Work:**   * Giving feedback and critique “best practices” * Discussion of cognitive aspects of receiving feedback (belief perseverance, cognitive flexibility, self-regulation) * Cognitive flexibility tasks * Presentation and critique of storyboards and prototypes (to Client) * New brainstorming session to refine/adapt prototypes * Planning for gathering feedback from users on prototypes   **Assignment Due:**   * Blog Entry #7 * Refined storyboard and initial prototype * Team Memo #4: 2-page memo and 10-minute presentation describing the process of developing the storyboards and initial prototype. (Client will attend) |
| 11/14  Week  9 | **Enlightened Trial and Error**  **Reading/Video:**   * The Business Model Canvas, by Alex Osterwalder   **In-Class Work:**   * Present findings and reaction from conversations with the users about the prototype (storyboard) * Start of new prototyping based on feedback from initial prototype   **Assignment Due:**   * Blog Entry #8 * (No memo; presentation only) Each team should present a revised storyboard of one concept based on the feedback and critique that the group received during the prior class session and from user conversations. |
| 11/21\*  Week  10 | **Co-Creation with Client**  **In-Class Work:**   * Presentation of prototypes with discussion of economic feasibility to Client for critique/feedback   **Assignment Due:**   * Blog Entry #9 * Team Memo #5: 2-page memo and 10-minute presentation about the newest prototype, along with the Business Model Canvas for the concept and a cost-benefit analysis. |
| 11/28  Week  11 | **Experimentation**  **Reading:**   * D. Garvin. 2000. *Learning in Action*. Boston: HBS Press. Chapter 5 (Experimentation).   **In-Class Work:**   * Learn how to design a simple, low cost, fast experiment that could be executed to test some element of your concept   **Assignment Due:**   * Blog Entry #10 |
| 12/5  Week  12 | **Developing Your Pitch**  **In-Class Work:**   * Presentation of findings from team experiment * Development of final pitch of the concept to the client * Final refinements to the prototypes   **Assignment Due:**   * Blog Entry #11 * Team Memo #6: 2-page memo and 10-minute presentation about the findings from the team experiment |
| 12/12  Week  13 | **Refining Your Final Presentation & Prototype**  **In-Class Work:**   * Development of final pitch of the concept to the client * Final refinements to the prototypes   **Assignment Due:**   * Blog Entry #12 |
| 12/15\*  Exam Period | **Final Client Presentations**  **In-Class Work:**   * Final presentations to the client   **Assignment Due:**   * Blog Entry #13 (Final Entry) * 10-page proposal for Client and a 15-minute presentation on the team’s final concept * Team Evaluation Form |

**Attendance Policy**

We will be very demanding with regard to class attendance and on-time arrival in this course because our collective learning is maximized with full participation and commitment on the part of everyone. Please remember that late arrivals are very disruptive to your fellow students and to the learning process. Your grade will be adversely and significantly affected if we discover a problem with regard to tardiness or absences. Multiple late arrivals and/or absences put you at risk of failing the course. When absences must occur, please notify us by email in advance whenever possible.

**Academic Integrity**

In order to maintain a vigorous learning community in the classroom, it is critical that we, as a class, do not tolerate academic fraud (cheating, plagiarism, lying). As a matter of personal and professional respect for each other, and ourselves, we should expect the highest standards of conduct from our peers and ourselves. Violating these standards takes away the value and meaning of the educational environment for all of us, and in the event that such a violation occurs, the individual(s) responsible will be subject to faculty and university sanctions that may include failure from the course, suspension, or expulsion.

**Course Requirements & Grading**

1. Memos & Class Presentations (Team) 25%
2. Final Paper (Team) 15%
3. Final Presentation (Team) 10%
4. Multimedia Blog (Individual) 30%
5. Class Participation (Individual) 15%

Letter grades in the course will be computed according to the following legend:

|  |  |  |
| --- | --- | --- |
| **Letter Grade** | **Performance** | **Percentage %** |
| A |  | 93 and above |
| A- | Outstanding | 90-92 |
| B+ |  | 86-89 |
| B | Above Average | 83-85 |
| B- |  | 80-82 |
| C+ |  | 76-79 |
| C | Average | 73-75 |
| C- |  | 70-72 |
| D+ | Poor | 67-69 |
| D |  | 60-66 |
| F | Inadequate | 59 or below |

**Description of Course Requirements**

1. **Memos & Class Presentations (Team):** Your team will submit six single spaced, 2-page memos throughout the course that address the following:

(1) “Practice” field observations with links to perception, information processing, &

cognitive bias

(2) Field observations

(3) Core insights and “how might we” questions

(4) Storyboard and prototype feedback

(5) Experimentation

(6) Business model canvas & cost-benefit analysis

Specific writing prompts and scoring criteria will be provided for each Memo and will be posted on blackboard. Memos should be submitted electronically by one team member via blackboard.

Your team will also make brief (10-minute maximum) presentations to the class as you progress through the stages of design thinking. Scoring criteria will be provided. *Memos and class presentations allow for assessment of course objectives 1, 2, 3, & 4.*

1. **Final Paper (Team):** Your team will prepare a 10-page proposal to Client that describes your final concept. Scoring criteria will be provided. *Final team paper allows for assessment of course objective 1.*
2. **Final Presentation (Team):** Your team will prepare a 15-minute presentation on your final concept to Client on December 15th. A scoring rubric will be posted on blackboard. Each team member will also complete and submit a Team Evaluation Form. Client will choose winners and award cash prizes. *Final team presentation allows for assessment of course objective 1.*
3. **Multimedia Blog (Individual):** At the start of the class, you will create a free blog account through either [www.wordpress.com](http://www.wordpress.com) or Blogger. *The blog (and any videos you upload to YouTube) must be set to private.* You will share the URL for your blog on blackboard so it can be read by your classmates, professors, and Client executives. There will be a total of 13 blog entries. Each week, you will document your learning, observations, insights, and all phases of your engagement in the design thinking process in a multimedia blog post. You will document class activities, teamwork, inspiration, and project progress by taking short video clips and photographs during class, during team meetings, and while out in the field (with permission when applicable). Your blog should be written in a creative and engaging style and should be rich with embedded photographs and video clips. There is an expectation that, within each blog, you will apply concepts and principles from the week’s course readings and class discussions. Given the interdisciplinary nature of this course, your ability to document the integration of psychological concepts and design thinking principles is important. Scoring criteria will be provided. Be creative and have FUN! ☺ *Blog posts allow for assessment of course objectives 1, 2, 3, & 4.*
4. **Class Participation:** Class participation plays an integral role in this course. Everyone must prepare the assigned material before class and participate in class discussion. A substantial portion of your grade will depend on your ability to contribute productively to our collective learning experience.

Get ready…this is going to be a dynamic and active course that promises to be a lot of fun! You will be on your feet, taking pictures, building prototypes, pitching ideas, collaborating with teammates, giving feedback, and learning and working in a variety of spaces and settings. We look forward to your thoughtful and substantive contributions to all class discussions and activities.

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| **newlogo** | **Bryant IDEA black and gold** |

**IDEA: Innovation and Design Experience for All**

**January 23-25, 2017**

**Course Overview**

Increasingly, organizations of all kinds have adopted many practices from the field of design to enhance their innovation capabilities. Design thinking refers to an approach to defining, investigating, and solving complex, ill-structured problems. The design thinking process truly sits at the intersection of business and the liberal arts, as people such as Apple founder Steve Jobs have so eloquently explained. Design thinking does not just represent a concept. It refers to a systematic process for structuring a problem, gathering information, and generating creative alternatives/solutions. That process unfolds in three broad phases:

1. **INSPIRE** – In the initial phase, teams define an innovation challenge, conduct observational research in the field, and form insights based on their observations and interviews.
2. **IDEATE** – In the second phase, teams frame opportunities for further exploration and engage in group brainstorming.
3. **IMPLEMENT** – In the final phase, teams pitch their ideas to colleagues and receive constructive criticism. They build multiple prototypes, using feedback to improve during each iteration of their work.

The IDEA course consists of an intensive, experiential learning experience in which we will apply the design thinking process to “real world” problems. You will learn about ***the innovation process in a true learning by doing mode***. Specifically, you will learn about two key elements or building blocks for creating new innovations in any field: ***design thinking and teamwork***. As part of this approximately 56-hour intensive experience, you will work in teams on projects covering a range of “real world” situations, ranging from the arts to social services to business. Each team has been assigned to a project, based on the ranking of preferences that took place in the fall semester.

You will practice elements of the design thinking process and work in teams to come up with creative solutions to the problems put before you. Faculty, staff, student, and alumni mentors will coach and mentor the teams during the process. Throughout this hands-on experience, faculty members will lead a series of workshops that will teach you about key elements of the innovation process, so that you can then apply those practices and techniques immediately to your projects.

The design thinking process does not take place inside the mind of an individual. It represents a collaborative process, with a team of individuals working to gather information, generate ideas, and build prototypes. Therefore, you will learn about several important techniques for improving team effectiveness. Moreover, you will learn how to lead teams successfully.

**Learning Objectives:**

The IDEA course aims to excite you about the topic of innovation generally, and about a specific set of interdisciplinary ideas or topics that you might investigate further during your future years at Bryant. In addition, the IDEA course aims to promote higher levels of faculty-student engagement and to create relationships that will last throughout your time at Bryant (and beyond).

IDEA represents a key component of the Gateway program for all first-year Bryant students. As such, we will be striving to achieve the broad learning objectives that all aspects of the Gateway seek to address. These Gateway objectives are:

*Effective Communication:*

* You will demonstrate the ability to effectively develop and express ideas both in writing and orally.

*Critical Thinking:*

* You will exhibit the habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

*Diversity Awareness:*

* You will demonstrate your development of a set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of diverse global, social, cultural, and political contexts.

*Ethical Reasoning:*

* The ability to assess you own ethical values and the social context of problems, recognize ethical issues in a variety of settings.

*Information Literacy:*

* The ability to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.

In addition to the overarching Gateway goals, the IDEA course has four fundamental learning objectives that are the focal points for this three-day intensive course. By the end of this three-day experience, you will learn how to:

1. Adopt the design thinking process to work on tough problems and come up with creative solutions
2. Work effectively as a team to accomplish a challenging task
3. Engage in constructive conflict and debate with other team members
4. Communicate your creative ideas in a concise and clear manner

**Grading**

Student teams must present a final project at the end of the experience, **and** they must turn in a written description of the process that they employed to develop their solution. The final project cannot be in the form of a Microsoft PowerPoint (or Prezi) presentation. Instead, the student teams must demonstrate their solution in a creative manner at the trade show that will take place on Wednesday, January 25th. The trade show starts at 2:00pm and ends at 4:00pm, at which time judges will evaluate the projects. Each team will have a table at the trade show to display their solution. Teams may build a model or prototype, create a video, or develop some other creative way to illustrate their idea. ***You cannot simply present a tri-fold at the trade show (though a tri-fold may be part of your exhibit).*** Think creatively about other ways to present your idea!

At all times during the trade show, two people from your team should be present at your table, prepared to describe the project and process to the judges and other visitors. The judges will be using the rubrics located in this syllabus to evaluate each team. During the trade show, you will be visited by several judges. They will visit you at different times. You will have **no more than eight minutes** with each judge to describe your project/process briefly and answer any questions they may have. When individuals on your team are not working your trade show table, they should be engaged in the following activities: finalizing your written description of the team process, completing their peer evaluation forms, and visiting other teams’ trade show exhibits.

At the 4:30pm closing ceremony, we will announce the results of the judging process. The judges will choose the top three teams. Each member of those winning teams will receive $50 in Bulldogs Bucks. We also would like to reward the cohorts in which these winning teams worked, since all members of those cohorts will have assisted the top teams by providing feedback and input throughout the program. Therefore, the members of those three cohorts will each receive a small Dunkin’ or Target gift card at the end of the program. (In other words, if Team A from Cohort 3 is one of the top three teams, then members of Team A will receive $50 each in Bulldogs Bucks, and all members of Cohort 3 will receive a Dunkin’ or Target gift card).

Each team must turn in a written description of the process that they employed to develop their creative solution. To provide this description, each team will download a form from Blackboard and then respond to a series of questions about their process. In this written description, teams must document how they researched their project, brainstormed together, and refined their prototype through multiple rounds of feedback from mentors and fellow students. Student teams should attach appendices to the completed form with tables, figures, photos, or other supporting data. You must do as much as possible to document your journey, to explain how you arrived at the idea you presented at the trade show. The written description is due by 4:00pm on Wednesday, January 25th. Each student also must submit a peer evaluation sheet, in which they assess the contributions of each of their fellow team members. The peer evaluation form may be found at the end of this syllabus and must be completed and submitted no later than 4:00pm on Wednesday, January 25th.

Students will be graded in the following manner:

* Attendance/Participation 20%
* Quality of Design Thinking Process 35%
* Quality of Final Project 30%
* Quality of Written Assignment 10%
* Completion of Peer Evaluation Form 5%

**20% Attendance and participation throughout the three-day course**

Attendance Policy:

We expect you to attend all IDEA sessions on time and to be prepared. Please handle your attendance in a professional manner. Absences and/or tardiness, for whatever reasons, will affect your class contribution grade significantly. If you are ill or must miss a class due to unusual, extenuating circumstances, or school sponsored activities, it is your responsibility to notify the instructor and your team members **prior to class by email**. You will have to make up the work that you missed, particularly with respect to your contribution to the team project. Each team member will evaluate the contributions of his or her peers at the end of the project. Failure to do your share on the project will have a serious adverse effect on your grade. ***Please note that failing this course will require re-taking the course in your sophomore year.***

Participation Policy:

Learning is not a spectator sport. Students do not learn much just by sitting in workshops and team meetings listening to their mentors and peers, memorizing what a presenter may have said, and regurgitating answers. You must talk about what you are learning, relate it to past experiences, and apply it to your projects. The standard that will be applied in assessing your participation during workshops and team meetings will be:

* "Did a student’s participation contribute to the team dialogue and advance the work being done to complete the project successfully?”

|  |  |  |
| --- | --- | --- |
| **Attendance and Participation Rubric** | | |
| **Score** | **Level of**  **Contribution** | **Behavioral Examples** |
| 1 | Unsatisfactory Contributor | Absent for the session. If present, this person is not prepared. When called upon, is not conversant with the assigned course material or is unprepared for the discussion or group work. Student also may be a disruptive influence through inappropriate behavior, such as coming late or leaving early. |
| 2 | Non-Participant | Present but consistently does not speak or says little. Little evidence to make an adequate evaluation. |
| 3 | Adequate Contributor | Contributes to the discussion and group task. Demonstrates satisfactory preparation. Sometimes offers substantive, useful insights. Seldom offers new direction for the discussion. Offers information directly without elaboration; shows a basic knowledge and comprehension of material and sometimes persuasive in one’s arguments. |
| 4 | Good Contributor | Offers usually substantive insights. Demonstrates thorough preparation. Goes beyond the facts as presented and tries to understand their implications. Usually spurs discussion in a new direction. Usually offers analysis and an assessment of the material. Usually suggests new ways of thinking about material; makes connections to other sources (e.g., workplace, business press, or personal examples). Often persuasive in one’s arguments. |
| 5 | Outstanding Contributor | Makes important contributions to the workshops and team discussions. Demonstrates exceptional preparation. Offers substantive insights. Offers analysis, synthesis, and evaluation; consistently suggests new ways of thinking about material; makes connections to other sources. Frequently spurs discussion in new and interesting directions. |

*Participation: Suggested Ways to Contribute:*

* Come to workshops and team meetings prepared to ask and respond to questions.
* Participate actively in team activities.
* Link course theories and concepts to the project work.
* Ask critical questions or seek clarification on confusing topics.
* Cite personal examples relevant to the workshop material or project.
* Play the devil's advocate in a constructive manner during a workshop or team meeting.

**35% Quality of Team Process**

The team’s **PROCESS** is **AS IMPORTANT** as the project/solution that you create. You must demonstrate that you have employed the design thinking process to develop your concept. We will evaluate your team’s process based on three criteria.

* Did you conduct good research, both in the field and on campus, related to your project (versus gathering little evidence, jumping to conclusions based on prior assumptions and beliefs, and relying primarily on personal experience)?
* Did you engage in an effective brainstorming process (versus rapidly converging on one idea and failing to consider a wide array of alternatives)?
* Did you engage in an iterative process, using feedback to refine and improve your idea on multiple occasions (versus not using feedback to adapt and enhance your team’s solution)?

Each criterion will be evaluated on a 1-7 scale (1 = incomplete/unacceptable and 7 = excellent). Each criterion will be weighted equally. Faculty members will complete the grid below for each project to determine an overall grade for the team. Then the faculty members will use the data from the peer evaluations to adjust individual grades up or down accordingly (i.e. someone whose peers evaluated as going above and beyond expectations would receive a higher grade than the overall team grade, while someone who did not fulfill their obligations to their team members will receive a lower grade than the overall team score).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1  Unacceptable | 2  Poor | 3  Fair | 4  Adequate | 5  Good | 6  Very good | 7  Excellent |
| Quality of Research & Field Observation |  |  |  |  |  |  |  |
| Effective Brainstorming |  |  |  |  |  |  |  |
| Iterative Process (Multiple revisions based on feedback) |  |  |  |  |  |  |  |

**30% Quality of Team Project**

We will evaluate your final output (presented at the trade show) based on four criteria.

* Does your concept/solution meet the needs of users? Is it desirable to them?
* Is your concept/solution original and creative?
* Is your concept/solution feasible and viable? (technically and financially)
* Did you create a high quality, creative trade show exhibit to demonstrate your idea?

Each criterion will be evaluated on a 1-7 scale (1 = incomplete/unacceptable and 7 = excellent). Each criterion will be weighted equally. Faculty members will complete the grid below for each project to determine an overall grade for the team. Then the faculty members will use the data from the peer evaluations to adjust individual grades up or down accordingly (i.e. someone whose peers evaluated as going above and beyond expectations would receive a higher grade than the overall team grade, while someone who did not fulfill their obligations to their team members will receive a lower grade than the overall team score).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1  Unacceptable | 2  Poor | 3  Fair | 4  Adequate | 5  Good | 6  Very good | 7  Excellent |
| Meets Needs of Users |  |  |  |  |  |  |  |
| Original/Creative Solution |  |  |  |  |  |  |  |
| Feasible/Viable Solution |  |  |  |  |  |  |  |
| Quality/  Creativity of trade show exhibit |  |  |  |  |  |  |  |

**10% Quality of Written Assignment**

Each team must turn in a written description of the process that they employed to develop their creative solution. To provide this description, each team will download a form from Blackboard and then respond to a series of questions about their process. In this written description, teams must document how they researched their project, brainstormed together, and refined their prototype through multiple rounds of feedback from mentors and fellow students. Student teams should attach appendices to the completed form with tables, figures, photos, or other supporting data. The executive summary is due by 4:00pm on Wednesday, January 25th. The faculty members will evaluate this written assignment based both on the content of the memo, **as well as the quality of the writing.**

|  |  |  |
| --- | --- | --- |
| **Written Assignment Rubric** | | |
| **Score** | **Level of**  **Contribution** | **Behavioral Examples** |
| 1 | Not submitted on time. | Failure to submit the written form by 4:00pm on January 25, 2017. |
| 2 | Below Expectations | Does not explain team’s process in a clear and concise manner. Fails to provide evidence documenting the key steps of the process. Contains multiple spelling and grammatical errors. Fails to provide proper citations. |
| 3 | Meets Expectations | Provides a clear explanation of the team’s process. Offers some evidence documenting key steps of the process. Contains no more than one spelling or grammatical error. Provides proper citations. |
| 4 | Exceeds Expectations | Offers a comprehensive and detailed explanation of the team’s process. Provides thorough evidence to document the group’s process. Contains no spelling and grammatical errors. Provides proper citations. |

**5% Completion of the Peer Evaluation Form**

Each student must complete the peer evaluation form posted at the end of this syllabus. You must submit your form no later than 4:00pm on Wednesday, January 25, 2017. You can earn 5 points toward your final grade (on a 100 point scale) simply by completing the peer evaluation. The scores that you provide will be used to determine the final grades of all group members on the team project.

|  |  |
| --- | --- |
| **Peer Evaluation Form Rubric** | |
| **Score** | **Work Accomplished** |
| Full credit | Completion of the Peer Evaluation Form by 4:00pm on January 25, 2017. |
| No credit | Late submission or failure to submit peer evaluation form. |

**Team Assessment and Peer Evaluation Form**

Please take a few moments to complete this survey about your team’s effectiveness during the IDEA course. We encourage you to be completely frank about the contributions of each member of your team. We will use this peer assessment to help determine the grade that each individual deserves in this course. Please be assured that all ratings and comments will be kept completely confidential.

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cohort # \_\_\_\_\_\_\_\_\_\_\_\_\_ Team \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**To begin, please rate the team as a whole using the 1-7 scales shown below:**

***This team experience illustrates how a group of people can work together to accomplish more than any one of us could have accomplished alone.***

1 2 3 4 5 6 7

Disagree completely Agree completely

***This team integrates its skills and knowledge - sharing information and opinions - very effectively.***

1 2 3 4 5 6 7

Disagree completely Agree completely

***I suspect that this team could be performing better than it is.***

1 2 3 4 5 6 7

Disagree completely Agree completely

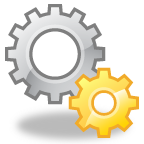
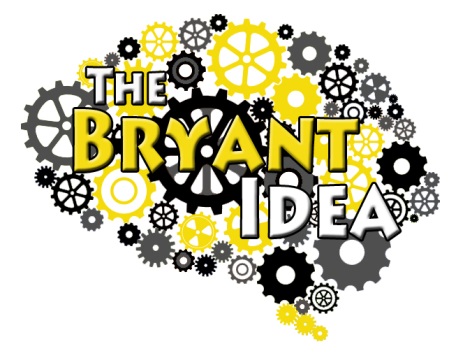
***I would prefer to work with some other group of people, rather than this particular team, if I actually had to complete important projects in the workplace with a team.***

1 2 3 4 5 6 7

Disagree completely Agree completely

Finally, and most importantly, ***please allocate 100 points among all members of your team (including yourself) in a manner that reflects each person’s contribution to the overall group output.*** For instance, if there are five team members, and each person contributed equally, then each person receives 20 points. However, I encourage you to seriously consider providing unequal allocations of points if the situation warrants it. For instance, you may have some members who clearly went above and beyond the contributions of their peers, or you may have some members who clearly did not contribute as much as expected to the team’s output. In the space below, please list the names of all team members (including yourself), along with your point allocations. Please be sure the points add up to 100 (no more, no less). Please provide written comments to support your numerical allocations.

|  |  |  |
| --- | --- | --- |
| **Name** | **Percentage** | **Comments** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| **Total =** | **100%** |  |

**2017 IDEA Program**

**Student Schedule**

**Sunday January 22nd**

12 – 9pm **Resident Student IDEA Program Check-In** (Hall 14, 15, and 16)

5 – 7pm **Dinner** (Salmanson)

**Monday, January 23rd**

7:30am **Breakfast** (Salmanson)

8:00am – **Commuter Student IDEA Program Check-In** (Chace Wellness Center Lobby)

8:45am

9:00am **Meet Your Mentors and Check-In** (MAC)

9:15am **Opening Activity and Introduction to IDEA 2017** (MAC)

9:45am **Cohort Introductions** (Cohort Room)

10:30am **Design Challenge** (Cohort Room)

11:30am **Introduction to the Design Thinking Process** (MAC)

12:00pm –  **Lunch** (Salmanson)

1:30pm **Cohorts 1 – 17:** Lunch at 12:00pm

**Cohorts 18-34:** Lunch at 12:45pm

1:30pm – **Field Research Workshop & Preparations** (Cohort Room)

3:15pm **1:30pm-2:45pm:** Field Research Workshop: Observations & Interviews

**2:45pm-3:15pm:** Project Reveal & Field Research Preparation

3:15pm **Leave Classrooms for Bus Loading Locations**

All other cohorts will board buses in the Commuter/Faculty Staff Parking Lot (LOT A)

EXCEPT Cohorts 1, 2, 13, 18, and 31 – They will board buses earlier in the afternoon at the RIPTA stop near the Chace Wellness Center

MC900383582[1]

3:30pm **Leave Bryant for** **Field Research**

5:15pm– **Bus Loading back to Bryant/Fieldwork Debrief**

5:45pm Your student mentors will direct you when to head back to Bryant

5:30pm– **Dinner** (Salmanson)

7:15pm

7:15pm **Cohort Mascot Creation** (Cohort Room)

*Each student should bring 5 canned goods to their classroom by 7:15pm*

7:45pm **Field Research Debrief** (Cohort Room)

8:30pm **Brainstorming Workshop** (AIC)

9:30pm **Welcome Back Celebration** (Fisher Center)

See flyer in your folder for more information

**Tuesday, January 24th**

7:30am – **Breakfast** (Salmanson)

9:30am

10:00am **Insights & How Might We Questions** (Cohort Room)

11:00am **Team Dynamics Workshops** (Rotunda, AIC, Bello, Fisher)

1:00pm –  **Lunch** (Salmanson)

2:45pm **Cohorts 18-34:** Lunch at 1:00pm

**Cohorts 1 – 17:** Lunch at 1:20pm

2:45pm **Brainstorming** (Unistructure)

3:45pm  **Story Boarding** (Unistructure)

5:00pm  **Dinner** (Salmanson)

**Cohorts 18-34:** Dinner at 5:00pm

**Cohorts 1 – 17:** Dinner at 6:00pm

7:00pm **Story Board Presentation and Initial Pitch** (Cohort Room)

*You will meet your alumni mentors at this time.*

8:00pm –? ☺ **Prototyping** (Cohort rooms)

Teams will work through the night to begin their prototypes and create their projects!

3pm – 1am **IDEA “Rest and Refresh” Open** (MRC4 and Rotunda)

See flyer in your folder for more information

**Wednesday, January 25th**

7:30am – **Breakfast** (Salmanson)

8:45am

9:00am **Pitch, Brainstorm, and Revise** (Cohort Room)

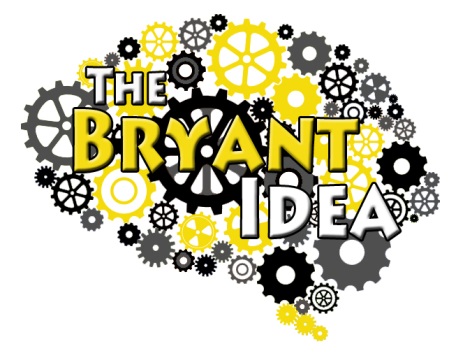
10:00am – **Prototype Refinement and Trade Show Preparation** (Cohort Room)

1:00pm

11:30am – **Lunch Available** (Salmanson)

1:00pm

10am – 1pm **IDEA “Rest and Refresh” Open** (MRC4)

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1:00pm **IDEA Experience and Cohort Wrap-up** (Cohort Room)

1:45pm  **Trade Show Setup** (Multiple Locations below)

2 – 4pm **Class of 2020 IDEA Program Trade Show**

**Cohorts 1 – 12**: Rotunda, Unistructure

**Cohorts 13 – 24:** Bello Center Grand Hall

**Cohorts 25 – 34**: Academic Innovation Center

4:30pm **Class of 2020 IDEA Program Closing** (MAC)

*Please recycle your nametags at the door!*