Course ENDS 101: The Design Process
[Sections 501, 503, 504]
Fall 2013
11:10 am – 12:25 pm
Geren Auditorium; Ground Floor, Langford Architectural Center Building B

Course Syllabus

A. Course Description
ENDS 101. The Design Process; (3-0) Credits 3; Prerequisite(s): None
Fundamental design processes, issues and theories relevant to design resolution and the creation of new ideas; creative thought processes from the formation of ideas through incubation to final product and future impact on the physical environment and society.

B. Instructor Information

Professor:
Dr. Jorge Vanegas
Dean of the College of Architecture
(See Attachment 3 for Biographical Sketch)

Office Hours:
PREFERABLY, by an appointment request via email to the Assistant to the Dean, Ms. Sue Wade: swade@arch.tamu.edu
Other normal hours, when available, Tues. & Thurs. (10:00 – 11:00 am & 12:30 – 1:30 pm).

Office Location:
Dean’s Office, Second Floor, Langford Architecture Center, Building A, Suite 202
Tel.: 979/845-1222 • Fax: 979/845-4491
Cell: 979/204-2577 (in case of an emergency only, please)

Primary Email:
Through the email option in the Blackboard/VISTA site for the course in eLearning
Alternate Email: jvanegas@arch.tamu.edu

Teaching Assistant No. 1:
Michael Bunch
Office Hours: Tues. & Thurs. (1:00 – 5:00 pm), and Wed. from 9:00 am – 5:00 pm,
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Teaching Assistant No. 2:
Andrew Billingsley
Office Hours: Mon. & Fri., only by appointment request via email
Email: ENDS101TAAAndrew@gmail.com

TA Office:
Technical Resource Center, Second Floor, Langford Architecture Center, Building A

Note B1: Questions about assignments, assistance with presentations, and grading issues should be addressed to, and should be discussed with, the Teaching Assistants FIRST.
C. Course Topics and Learning Objectives

This course introduces students from multiple disciplines to the wide range of transitions, change, harsh realities, complex challenges, and serious impacts, and also, of accelerating technological developments, that our Nation and the World are facing today, with an added special need for social innovation. Consequently, there is a high demand for new approaches to fundamental concepts of problem solving based on creativity, innovation, and design, fueled by curiosity and imagination, and pulled by a spirit of entrepreneurship. Topics addressed in the course begin with intuition and flow, creative thinking, convergent, divergent, and provocative thinking as initial points of departure. Subsequently, the course provides an exposure to a wide range of paradigms, strategies, processes, tools, practices, principles, and resources that support creativity, innovation, design, and entrepreneurship follow, within high performance creative individuals, teams, and organizations, with the intent of enabling students to dream, envision, and create new products, processes, services, business models, and unique experiences or artistic creations.

These topics are complemented and supplemented with an exposure to how communication, humor, leadership, personal space, and gender influence and affect creativity. The course emphasizes the production of knowledge, given that all assignments require that each student produce knowledge rather than reproduce knowledge, both individually and in teams; to think systemically and holistically, and to reach his or her potential creative talent. In addition, the course provides an opportunity for students to develop management skills, to enhance written, oral, and visual communications skills and abilities, and to cultivate a spirit and attitude of self-reliance, and of personal responsibility and accountability.

Students also learn about intellectual property and how to conduct patent searches, and are exposed to the activities of Startup Aggieland, the Center for New Ventures & Entrepreneurship (CNVE), the Technology Commercialization Center (TCC), and the Technology Licensing Office (TLO) at Texas A&M University (TAMU) and the Texas A&M University System (TAMUS).

Finally, students are made aware of how future theory, studies, trends, and influences, and also, the singularity will possibly affect career choices in a global context.

The overall learning outcomes for students in this course match the general University Learning Outcomes for all Baccalaureate Graduates. They are:

- Master the depth of knowledge required for a degree (the content of this course complements and supplements all degree programs at Texas A&M University)
- Demonstrate critical thinking (critical thinking is an integral component of all graded assignments in the course)
- Communicate effectively (written, oral, and visual communication are integral components of all graded assignments in the course)
- Practice personal and social responsibility (personal responsibility and accountability are an explicit expectation for all students in the course, in addition, students are exposed to a lecture and a graded assignment on social innovation and entrepreneurship)
- Demonstrate social, cultural, and global competence (the course places emphasis on global challenges for creativity and innovation, and on issues of gender, leadership, cultural differences regarding personal space, and provocative problem solving)
- Prepare to engage in lifelong learning (the course promotes curiosity, exploration, self reliance, discipline, and continuous learning)
Work collaboratively (50% of the final grade for the course is based on graded team assignments)

In addition, all individual and team assignments have defined specific learning objectives, including the development of skills and abilities in:

- The formal and explicit documentation of ideas, findings, creative thought processes, and the results from them, in a journal
- Establishment of prior work collections (i.e., drivers, ingredients, and precedents) for their creations, innovations, and inventions
- Preparing written technical reports and oral briefings on, and visual representations of, their creations, innovations, and inventions
- Delivering engaging presentations on selected creations, innovations, and inventions
- Sharing and exchanging ideas with other students in a virtual forum
- Evaluating objectively the performance of oral presentations of other students both in quality of content and in quality of delivery, and also, the performance of other members of their team in all graded team assignments

D. Technological Support

The course is supported by three distinct types of information technologies, which are discussed next. Additional details on what each one is and how each one is used will be provided during the course, as needed.

(1) Blackboard VISTA in eLearning

The course will use the Blackboard/VISTA learning system in eLearning (http://elearning.tamu.edu/) as the official means for managing the course, and also, for communicating with, sending information to, and receiving information from students, electronically. In addition, all course material will be posted in the Blackboard/VISTA site for the course (13 SPRING ENDS 101 501,503-504:DESIGN PROCESS), so students can have access to, and be able to download, any material used in class, as well as any complementary, supplementary, or additional relevant material issued for the class.

The official email mode of communication for this course is through the email option of the eLearning Blackboard/VISTA site for the course. Email to any other address for the instructor is acceptable, but there is a risk that it may be overlooked. In any case, all email communications to the instructor or the teaching assistants should follow the following formats for the subject line. It is VERY IMPORTANT that you always include ENDS 101 at the beginning of your subject line to ensure that I will read your email. If you do not, then there is a possibility that your email may be lost amidst the numerous emails received every day.

- Subject: ENDS 101 – FYI <For Your Information>
- Subject: ENDS 101 – RFI <Request for Information>
- Subject: ENDS 101 – RFA <Request for Action>
- Subject: ENDS 101 – RFV <Request for Variance>
- Subject: ENDS 101 – Muddy Point <Issue to Clarity>
- Subject: ENDS 101 – Gotcha! <Issue to Correct>

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(2) ideaMÂCHÉ

The course will utilize a tool called ideaMÂCHÉ [http://ideamache.ecologylab.net] for students to curate compositions of rich bookmarks about a given theme, in addition to using eLearning Blackboard/VISTA. These ideaMÂCHÉs will help students keep track of interesting pictures and sources, interconnections among concepts, and develop new ideas.

"Curation" means collecting, organizing, and annotating different pictures, websites, documents, or information. If students have ever posted a picture to Facebook, reblogged something on Tumblr, or pinned a picture with Pinterest, they have curated before: collecting and re-presenting bookmarks (links) to content they found interesting.

Whenever anyone browses pages on the internet, there is often detailed data associated with the content on those pages. For instance, if you browse to Amazon and find a book you want to buy, that page will contain information about the book, such as author, price, and reviews. If you look up a movie on IMDb, you'll see information about the stars of the movie or the director. If you go to a Wikipedia page about a topic, you'll see links to related Wikipedia pages. In all of these cases, the "extra" information you find on a page (author, price, directors, related pages, etc.), can be called "metadata."

Bookmarks to pages are great, especially if you want to look at that content later; however, if you wanted to know about the metadata on those pages, you would need to take time and navigate back to the page to find that information.

ideaMÂCHÉ can create "rich bookmarks" for many websites that contain both a bookmark to a page and the metadata associated with that page. These rich bookmarks are represented by a clipping from the page (often a prominent picture) and contain metadata collected from the page. Rich bookmarks include all sorts of useful information that you can use. They store information about pages so you can look it up later. They can also guide you in new directions and draw connections between ideas.

You place the rich bookmarks you collect into a "composition" within ideaMÂCHÉ. Composition is a medium for representing a set of ideas as a connected whole. It is like a visual collage of linked information, with background details. ideaMÂCHÉ enables you to arrange your rich bookmarks to help convey relationships, annotate to explain ideas and develop concepts, and modify their appearance to make them more visually appealing and meaningful (by blending, resizing, etc).

ideaMÂCHÉ stores your information compositions in the cloud. This means that you can access them from any computer on the internet, using the Chrome browser. You can also use the ideaMÂCHÉ website to publish your compositions, to share them with your classmates and the world.

Members of the ideaMÂCHÉ team will deliver a guest lecture and will demonstrate how to use this web application to support the creative process, with a focus on the graded assignments in the class. The ideaMÂCHÉ application can be found, with a YouTube video and supporting explanation, at [http://ideamache.ecologylab.net].

(3) Library Resources

Students are encouraged to seek assistance, and benefit from, the Texas A&M Libraries. As a complement to the material presented in class, posted in eLearning, generated by InfoComposer, and/or shared in Yammer, Attachment 2 to this syllabus contains a suggested list of books and other resource materials found in the literature.

In addition, students can benefit from the following simple class guide at http://guides.library.tamu.edu/ends101, which contains links to a few library resources that some students may find useful.

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E. Grading Criteria

The **final grades** for this class will be determined using the following point scale:

<table>
<thead>
<tr>
<th>Points</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90 – 100 Points</td>
<td>A</td>
</tr>
<tr>
<td>80 – 89 Points</td>
<td>B</td>
</tr>
<tr>
<td>70 – 79 Points</td>
<td>C</td>
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<tr>
<td>60 – 69 Points</td>
<td>D</td>
</tr>
<tr>
<td>Below 60 Points</td>
<td>F</td>
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</tbody>
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**Note F1:** Grades in this course will **NOT** be decided by curve, only straight averages. Borderline cases (i.e., 89, 79, 69, and 59) will be decided based on the quality and consistency of the student’s overall class performance and her/his active participation in selected non-graded assignments and activities.

**Note F2:** In the calculation of grades for any graded assignments in the course, the following grading scale will be used:

- **Excellent:** A; 95%100 points; assignment is an outstanding, professional, and high quality level effort (and to get 100/100 points, the activity needs to be a WOW! submission)
- **Very Good:** A-/B+; 90/100 points; assignment significantly exceeds the basic requirements, learning objectives, and expected level of quality for all deliverables, as specified in the instructions
- **Good:** B; 85/100 points; assignment clearly exceeds the basic requirements, learning objectives, and expected level of quality for all deliverables, as specified in the instructions
- **Above Average:** B-/C+; 80/100 points; assignment just does somewhat beyond the basic requirements, learning objectives, and expected level of quality for all deliverables, as specified in the instructions
- **Acceptable/Average:** C; 75/100 points; assignment just meets the basic requirements, learning objectives, and expected level of quality for all deliverables, as specified in the instructions
- **Below Average:** C-; 70/100 points; assignment barely meets the basic requirements, learning objectives, and expected level of quality for all deliverables, as specified in the instructions
- **Poor:** D; 65/100 points; assignment does not meet some of the requirements, learning objectives, and expected level of quality for all deliverables, as specified in the instructions, or is incomplete
- **Unacceptable:** High F; 55/100 points; assignment was submitted late, and/or fails to meet the requirements, learning objectives, and expected level of quality for all deliverables, as specified in the instructions
- **Not Submitted:** Low F; 0/100 points; assignment not turned in at all

**Note F3:** All graded team assignments will receive a single team grade. However, the grade for individual members of the team will be a function of the peer evaluation of their contribution to the team.

F. Grading Breakdown

The breakdown for the final grade for the course is as follows:

**Individual Assignments (55%)**

- **Assignment No. I-1**
  - Creativity Journal/Portfolio – CJP ................................................................. 15%

- **Assignment No. I-2**
  - Personal Branding Profile – PBP ................................................................. 10%

- **Assignment No. I-3**
  - **Individual Creativity Challenge – ICC** .................................................. 10%
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- **Assignment No. I-4**
  Five Individual Soft Innovations – 5ISI .................................................. 10%

- **Assignment No. I-5**
  Final Examination Essay – FEE ................................................................. 10%

Subtotal: .............................................. 55%

**Team Assignments (45%)**

- **Assignment No. T-1**
  Team Building Creativity Challenges – TBCC ............................................. 5%

- **Assignment No. T-2**
  Team Branding Profile – TBP ................................................................. 10%

- **Assignment No. T-3**
  Team Creativity Challenge – TCC
  (Inspired/Based on Competitions) .......................................................... 10%

- **Assignment No. T-4**
  Five Team Soft Innovations – 5TSI .......................................................... 10%

- **Assignment No. T-5**
  Final Examination Slide Presentation/Video – FESP/V ................................ 12%

Subtotal: .............................................. 45%

Total: .............................................. 100%

All assignments are considered **bids** (or **tenders**). Consequently, **to be considered for a grade, an assignment needs to be turned in no later than the specified time and date.** Any assignment submitted late will automatically receive a grade of Unacceptable: **High F: 55/100 points.** The only exceptions to this rule include a documented medical reason, a "force majeure," or an official University Excused Absence. In addition, students need to keep in mind that to be considered late, an assignment needs to be submitted **no later than by midnight (11:59 p.m.) 2 days after the original specified time and date (i.e., 48 hours);** otherwise, the assignment will automatically receive a grade of Not Submitted: **Low F: 0/100 points.** Thus, it is better to submit on time an incomplete assignment, or an assignment in progress, than to submit it late, or to not to submit anything at all.

**Non-Graded Assignments**
(will be used in deciding borderline grades, helping and not penalizing students)

- **Mandatory**
  - Completion and submission of the mandatory **Non-Disclosure Agreement (NDA)**
    (students are required to **complete and submit in hard copy** a mandatory NDA)
  - Completion and submission of the **Non-Graded Pilot Assignment**
    (students are required to **complete and submit electronically** the non-graded pilot assignment to certify that they read the syllabus completely, and to learn about submission of assignments using eLearning)
  - Completion and submission of the **Non-Graded Team Contact Assignment**
    (students are required to **complete and submit electronically** the non-graded team contact assignment to certify that they made a formal and explicit attempt to contact the members of their assigned teams)
Peer Evaluations of **Oral Class Presentations**
(Unless they have a University excused absence, students are **required to attend the three classes** that will feature oral presentations by the various teams, and **to complete and submit in hard copy a peer evaluation** of those presentation)

Peer Evaluations of **Team Performance**
(students are **required to complete and submit in hard copy a peer evaluation of team performance** following the instructions provided)

**Expected (but not mandatory)**

- Postings to **Discussion Groups** created for the course on eLearning Blackboard/VISTA
  (students are expected, and highly encouraged, to **contribute postings, to read postings by other students, to respond to postings by other students on a regular basis, as a minimum, on a weekly basis**)

- Exploration of selected **Suggested Readings and Resources** provided for the course on the course eLearning Blackboard/VISTA
  (students are expected, and highly encouraged, to **select, read, and/or explore, on a regular basis and as a minimum three, suggested readings and resources of their personal interest and choice**)

- Completion and submission of Special Assignment S-1: **Assignment Posters**
  (students are expected, and highly encouraged, to **complete and submit this assignment following the instructions provided**)

- Completion and submission of Special Assignment S-2: **ideaMÂCHÉ**
  (students are expected, and highly encouraged, to **complete and submit this assignment following the instructions provided**)

The initial assignment schedule may change at any time during the semester, to accommodate any special circumstances that may arise. If a change occurs, students will be informed by email, and an addendum to the course schedule will be issued.

**G. Special Instructions on Teamwork**

Given the importance of teamwork in this class, the following rules apply:

- All graded team assignments will receive a single team grade. However, the grade for individual members of the team will be a function of the **peer evaluation** of their contribution to the team.

- Any team can **fire** any of its members for non-performance, for disruptive/disrespectful behavior, or other due cause. To do so, and before the actual dismissal, the rest of the team members must (1) unanimously agree on the dismissal; (2) document explicitly, formally, and with evidence the reasons for doing so; (3) inform the team member that he/she is about to be dismissed from the team, clearly explaining the reasons behind the decision; (4) give the team member one last chance to take corrective action within a specific time frame; (5) concurrently with step 4, inform the instructor and the two teaching assistants; and (6) officially dismiss the team member, if the reasons for doing so persist beyond the grace period given to him/her. In this case, the student must meet with the instructor with a proposal on how to complete the team assignments, and seek approval. Failure to do so will result in an automatic failing grade (55) on the team portion of the final grade.

- Any team member can **resign** from his/her team for a valid reason. To do so, and before the actual resignation, the team member wishing to be removed from the team must (1) document explicitly formally, and with evidence the reasons for doing so; (2) inform the other team members that he/she is about to resign from the team, clearly explaining the reasons behind the decision; (3) if
applicable, give the team one last chance to take corrective action within an agreed upon specific time frame; (4) concurrently with step 3, inform the instructor and the two teaching assistants; and (5) officially resign from the team, if the reasons for doing so persist beyond the grace period agreed upon with the team. In this case, the student can seek to be hired by another team, and if unsuccessful, must meet with the instructor with a proposal on how to complete the team assignments, and seek approval. Failure to do so will result in an automatic failing grade (55) on the team portion of the final grade.

H. Individual and Team Graded Assignments

All the assignments require that students must produce new knowledge or significantly build upon existing knowledge, instead of just merely reproducing existing knowledge. This means that the correct answer is not in the back of a book, or that there is even a correct answer. Students may be introducing to the world something unique that has never existed until they created it. Students will have to exercise their imagination, intuition, creativity, and innovation to produce results similar to what the future will demand for success and even survival. Consequently, when students complete any assignment, they need to ask themselves: Does my idea, creation, innovation, or invention result from or add new knowledge?

Each graded assignment in the course, as specified above in Section F of this syllabus, will have a separate document with specific instructions regarding the due dates, times, locations, and general instructions for the official submissions.

Individual Assignments

- **Assignment No. I-1: Creativity Journal/Portfolio (CJP)**
  The learning objective of asking students to keep a CJP is to develop the discipline and the skill to continuously record formally and explicitly, anything about which the student may wonder about, find interesting, have unanswered questions, and/or don't know much about. Specifically, for this assignment, students create and maintain a CJP throughout the semester to formally document or record both the thought processes and the results of creative activities throughout the semester in this class. Students are encouraged to include, for example, any reactions generated by any of the learning experiences in the course; any comments on knowledge gained; lessons learned; examples of creative flow; experiences lived within assignments; insights and discoveries about themselves and the world around them; and anything else of personal interest. In general, when students complete this assignment, they need to ask themselves: Does my CJP fully capture my complete learning experience in this course, and also, does it convey unequivocally that I have achieved the learning objectives of the course for this assignment? Details of this assignment will be provided in specific assignment instructions.

- **Assignment No. I-2: Personal Branding Profile (PBP)**
  The learning objectives of asking students to develop their own PBP are to (1) encourage them to see themselves as unique individuals from multiple points of view; and (2) be able to translate who they are into a formal and explicit document or creation of any type. Specifically, for this assignment, students prepare their PBP by providing answers to 25 questions, and more importantly, by communicating these answers with a medium, format, design, style, and content of their personal choice, and at their discretion. In general, when students complete this assignment, they need to ask themselves: What can I do to communicate who I am through my answers in a way that is completely unique, original, authentic, creative, innovative, provocative, engaging, and unforgettable? Details of this assignment will be provided in specific assignment instructions.
Assignment No. I-3: Individual Creativity Challenge (ICC)
The learning objective of asking students to participate in a role/scenario playing exercise based on a real creativity challenge is to provide an incentive and a context for the development of innovations, which transcend the course. More specifically, the learning objectives of this individual assignment are to (1) develop skills in problem solving, creativity, innovation, and invention; (2) provide an opportunity to apply these skills within a familiar context; and (3) learn to present ideas through the development of a technical report, a prior work collections, and a technical briefing on the idea, creation, innovation, or invention developed for the assignment. Specifically, for this assignment, students develop individually concept proposals for creative innovations that, if implemented, will contribute to achieving "Action 2015: Education First" that are currently driving Texas A&M University's quest for acceptance as a consensus leader among peer public institutions. In general, when students complete this assignment, they need to ask themselves: What can I create, innovate, or invent that will make a real difference in enhancing excellence in learning/teaching for students and faculty at Texas A&M University? Details of this assignment will be provided in specific assignment instructions.

Assignment No. I-4: Five Individual Soft Innovations (SISI)
The learning objectives of asking students to develop Soft Innovations individually are: (1) to become aware of the numerous opportunities that exist for developing product, process, service, or business model innovations; (2) to develop skills and abilities in creative thinking and problem-solving; (3) to be able to describe any innovation developed in a briefing, using both visual depictions of the innovations and textual narratives, and following a clear set of guidelines; and (4) to formally document that any innovations developed are novel and unique, through the development of a Prior Works Collection (needs, resources, and precedents) for the innovation, and by conducting simple search engine, trademark, and patent searches. Specifically, for this assignment, students develop individually five (5) Soft Innovations, as follows: (1) a product innovation; (2) a process innovation; (3) a service model innovation; (4) a business model innovation; and (5) a unique experience or artistic creation. In general, when students complete this assignment, they need to ask themselves: What products, processes, services, business models, and unique experiences or artistic creations, or can I imagine, create, innovate, or invent that currently do not exist, but if they did, could be used as the basis of a solid (and possibly tangible) value proposition? Details of this assignment will be provided in specific assignment instructions.

Assignment No. I-5: Final Examination Essay (FEE)
The learning objectives of asking students to thoughtfully reflect on the Future are to (1) become aware of trends, issues, challenges, and opportunities that have the potential to affect them on a professional and personal levels in the future, particularly advances in technology; (2) to develop skills and abilities in visioning, anchored in creative thinking; and (3) to be able to communicate on an individual basis their visions of the future in a thoughtful, well-structured, and articulate way. Specifically, for this assignment, students prepare a thoughtful, well-structured, and articulate essay, developed from their individual perspective, and within the context of his or her specific field or domain of study, which answers a set of questions. In general, when students complete this assignment, they need to ask themselves: How did this class prepare me for facing the future? Details of this assignment will be provided in specific assignment instructions.
Team Assignments

- **Assignment No. T-1: Team Building Creativity Challenges (TBCC)**
  The learning objectives of asking students to develop responses to the TBCC as a team are to (1) practice problem solving in a team setting; and (2) have fun while getting to know each other. Specifically, for this assignment, teams complete all exercises in the TBCC as specified in each of ten challenges. In general, when teams complete this assignment, they need to ask themselves: How can the team members get to know each other through the development of creative responses to the challenges posed, and learn to work together in a collaborative, cohesive, harmonious, effective, and efficient way? Details of this assignment will be provided in specific assignment instructions.

- **Assignment No. T-2: Team Branding Profile (TBP)**
  The learning objectives of asking students to develop a TBP for the team to which they have been assigned in the course are to (1) encourage them to see the team from multiple points of view, and especially not only as a group of unique individuals who need to work together, but rather as a cohesive team capable of completing successfully, effectively, and efficiently the team assignments in the course; and (2) be able to translate who the team is into a formal and explicit document. Specifically, for this assignment, teams prepare their TBP by providing answers to 20 questions, and more importantly, by communicating these answers with a medium, format, design, style, and content of their personal choice, and at their discretion. In general, when teams complete this assignment, they need to ask themselves: What can we do as a team to communicate our answers to the questions posed in a way that is completely unique, original, authentic, creative, innovative, provocative, engaging, and unforgettable? Details of this assignment will be provided in specific assignment instructions.

- **Assignment No. T-3: Team Creativity Challenge (TCC)** (Based on a Competition)
  The learning objective of asking students to participate in either a university-wide competition or a national/international competition (or a combination of both) is to provide an incentive and a context for the development of creations, innovations, or inventions, which transcend the course.

1. If teams choose to pursue **Option 1 – Ideas Challenge Competition – ICC (a university-wide competition)**, the goal is to "...dream up the next great product or service..." This team assignment provides an opportunity to apply creativity and innovation within the broader contexts of business and society, and is based on the campus-wide competition at Texas A&M University sponsored by the Center for New Ventures and Entrepreneurship in the Mays Business School at Texas A&M University, the "2012 Ideas Challenge Competition", for the development of the "Next Big Idea." Specifically, for this assignment, teams prepare a mock submission for this competition, following all competition rules, and make a peer-reviewed oral presentation to the whole class.

2. If teams choose to pursue **Option 2 – Social Innovation Competition – SIC (a national / International competition)**, the goal is to develop an innovation that is a "...dream with the power to change the world..." This team assignment provides an opportunity to apply creativity and innovation to issues facing society in our Nation, and in the world today, and is based on the Dell Social Innovation Competition, which is organized and sponsored annually by the RGK Center for Philanthropy and Community Service in the LBJ School of Public Affairs at the University of Texas. Specifically, for this assignment, teams prepare a mock submission for this competition, following all competition rules, and make a peer-reviewed oral presentation to the whole class.
For these two options, the learning objectives of this team assignment are to (1) develop skills in problem solving, creativity, innovation, and invention; (2) provide an opportunity to apply these skills in the development of a concrete idea, creation, innovation, or invention; (3) learn about entrepreneurship and social innovation; and (4) learn to present ideas through the development of a technical report, a prior work collections, and a technical briefing on the idea, creation, innovation, or invention developed for the assignment. In general, when teams complete this assignment, they need to ask themselves: What big idea can we develop as a team that could be the next great product, process, service, or business model? and/or What innovation can we develop as a team that will make a real difference in enhancing the quality of life for people anywhere in the world; an idea to change the world? Details of this assignment will be provided in specific assignment instructions.

- **Assignment No. T-4: Five Team Soft Innovations (5TSI)**
  The learning objectives of asking students to develop Soft Innovations in a team are: (1) to become aware of the numerous opportunities that exist for developing product, process, service, or business model innovations as a team; (2) to develop skills and abilities in creative thinking and problem-solving as a team; (3) to be able to describe any innovation developed in a briefing, using both visual depictions of the Innovations and textual narratives, and following a clear set of guidelines as a team; and (4) to formally document that any innovations developed are novel and unique, through the development of a Prior Works Collection (needs, resources, and precedents) for the innovation, and by conducting simple search engine, trademark, and patent searches as a team. Specifically, for this assignment, teams develop individually five (5) Soft Innovations, as follows: (1) one product innovation; (2) one process innovation; (3) one service innovation; (4) one business model innovation; and (5) one unique experience innovation or artistic creation. Teams have the choice of either using any of the soft innovations developed by any team member, as long as the team significantly improves or enhances the original soft innovation, or developing completely new and unique ones. In general, when teams complete this assignment, they need to ask themselves: What products, processes, services, business models, and unique experiences or artistic creations, can our team create, innovate, or invent that currently do not exist, but if they did, could be used as the basis of a solid (and possibly tangible) value proposition? Details of this assignment will be provided in specific assignment instructions.

- **Assignment No. T-5: Final Examination Slide Presentation/Video (FESP/V)**
  The learning objectives of asking students to thoughtfully reflect on the Future are: (1) to become aware of trends, issues, challenges, and opportunities that have the potential to affect them on a professional and personal levels, particularly advances in technology; (2) to develop skills and abilities in visioning, anchored in creative thinking; and (3) to be able to communicate their visions in a thoughtful, well-structured, and articulate way, within a collaborative team environment. Specifically, for this assignment, teams prepare a thoughtful, reflective, fanciful, well-structured, and articulate MS PowerPoint automated slide presentation or a Video, which answers a given question. In general, when teams complete this assignment, they need to ask themselves: What will the future look like? Details of this assignment will be provided in specific assignment instructions.

I. **General Requirements for all Individual and Team Assignments (IMPORTANT)**

For **ALL Individual and Team Assignments** for this course, **NEVER write your student ID number (either your complete or partial UIN) on your assignment.** In addition, for the assignments listed in
Section H of this syllabus, you must comply with ALL of the following five (5) requirements to qualify for a grade of WOW, EXCELLENT or VERY GOOD.

REQUIREMENT No. 1:
In ALL the individual and team assignments for the course, you MUST include within your assignment submission your full name, your team number and name (if applicable), the assignment number, the assignment name, and the assignment due date, and either:

The Aggie Honor Code Statement:
"An Aggie does not lie, cheat, or steal or tolerate those who do."

Or

The Aggie Honor Pledge:
"On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work."

You are encouraged to use a formal title page with the required information in your submissions, both electronic and hard copy. For multi-page work in hard copy, you must bind all pages together. Folders/binders are fine, as is the use of staples.

So when you complete an assignment, ask yourself:

☐ Did I include ALL the required information in the formal deliverable of my idea, creation, innovation, or invention?

REQUIREMENT No. 2:
In ALL the individual and team assignments for the course that require electronic submission to eLearning Blackboard/VISTA, you MUST follow the required file labeling protocol or file naming format specified in the assignment instructions.

So when you complete an assignment, ask yourself:

☐ Did I follow the required file labeling protocol or file naming format specified in the assignment instructions?

REQUIREMENT No. 3:
NOTE: This requirement ONLY applies to those assignments that EXPLICITLY require a Prior Work Collection. The Creativity Journal/Portfolio, the Personal and Team Branding Profiles, and the Final Exam Essay and Slide Presentation/Video are excluded.

All the ideas, creations, innovations, inventions, and potential responses to competitions or challenges that you will generate as part of this course, both individually and within your team, require the development of a Prior Work Collection (PWC).

A PWC is an assemblage of the information building blocks within the processes of research, discovery, creation, and invention, which provides the basis or foundation for a creation, an innovation, or an invention. Developing a PWC involves collecting materials that are relevant to your creation, whatever it may be. There are three kinds of prior work:

- Needs (or drivers) are facts that drive the process of innovation. They establish the relevance of the innovation. These include stories and statistics about consumer behavior, interview data, and projections about future needs.
ENDS 101; Fall Semester 2013
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- **Resources** (or ingredients) are raw materials that will be used for constructing the new invention. These include enabling technologies, design methods, processes, and materials.

- **Precedents** (or points of departure) are prior products and services that are similar to the innovation at hand. These can be used to differentiate the new product or service from what has been done before.

So when you complete an assignment, ask yourself:

☐ *Did I include a PWC that clearly shows the needs, resources, and precedents of my idea, creation, innovation, or invention?*

**REQUIREMENT No. 4:**

In ALL the individual and team assignments for the course, you must be able to communicate effectively using the format and media of your choice, unless a specific format or media is specified.

Assignments will have to be submitted formally (in electronic form and/or in hard copy, as specified for each one), and in addition, selected assignments will be presented in class. In presenting your ideas, creations, innovations, or inventions, you (or when applicable, your team) may choose to use written/oral narratives and stories; songs, music, and dance; role-playing, acting, and performing arts; sketches, drawings, and paintings; sculptures, models, and prototypes; or photographs, videos, and computer animations. The auditorium supports diverse types of media for any formal presentations of assignments, including computer projection of the content in a Flash Drive, and CD, DVD, and VHS playback of files such as: PowerPoint, PhotoShop, AutoCAD, MediaPlayer, and QuickTime, among others.

Production of written work with a computer is encouraged except where the style of handwriting is integral to an assignment’s presentation, especially if manual printing and/or handwriting are less than stellar. You are expected to use spellcheckers and to proofread your work! Finally, if your drawing abilities are limited, or you cannot draw well any object(s) required for a presentation, an acceptable alternative is the use of clip art, cutouts, photos, or computer generated graphics or images.

So when you complete an assignment, ask yourself:

☐ *Does my formal deliverable clearly communicate in an effective and engaging way the essence of my idea, creation, innovation, or invention?*

**REQUIREMENT No. 5:**

Finally, for ALL the ideas, creations, innovations, inventions, and potential responses to competitions or challenges that you will generate as part of this course, you **MUST AVOID** anything that involves:

- Causing harm to anyone or damage to anything
- Blatantly illegal, unethical, immoral, or vulgar activities
- Toilet paper/toilet seats, toothbrush/toothpaste, automatic soap/shampoo dispenser in faucet or showerhead, appliances for any bodily functions, and any other similar types of simple combinations of personal hygiene products/artifacts
- Grooming/make-up, hair/eyelashes/nails, and any other similar types of simple combinations of personal cosmetic products
Washer/dryer, alarm clocks, microwaves, stoves, refrigerators, the combination of a TV with another home appliance, remote controls, recliners combined with remote controls, and any other similar types of simple combinations of common household appliances

Pizza/beer/video-delivery, dentist/manicurist/hair-stylist, and any other similar types of simple combinations of common services

Dog/cat/pet poop cleanup, and Lawnmower/weed eater, and any other similar types of simple combinations of common garden maintenance artifacts

Blatant rip-offs of science-fiction movie gadgets

[You get the point...]

Caution: if you are unsure if one of your ideas, creations, innovations, or inventions is in compliance with this requirement, please ASK the instructor or the Teaching Assistants BEFORE you submit your formal deliverable.

So when you complete an assignment, ask yourself:

☐ Does my idea, creation, innovation, or invention, avoid ALL of these explicit exclusions?

J. Class Attendance

The University views class attendance as the responsibility of each individual student. Attendance is essential to complete the course successfully. University rules related to excused and unexcused absences are located on-line at:

http://student-rules.tamu.edu/rule07

Under the Aggie Honor Code, in this course, students are expected to self-monitor and report attendance as a requirement within Individual Graded Assignment No. I-1, the Creativity Journal/Portfolio.

The due dates and times for all individual and team assignments are provided from the start of the course. In the event a student is late in submitting an assignment as a result of an absence that is excused under the University's attendance policy, they should contact the Instructor. In such cases, the Instructor will provide the student an opportunity to submit the assignment without any penalty for being late by an agreed time and date. There will be no opportunity for students to make up work missed because of an unexcused absence.

K. Academic Integrity Statement

Aggie Honor Code

"An Aggie does not lie, cheat, or steal or tolerate those who do."

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Aggie Honor Code, http://www.tamu.edu/aggiehonor/, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.

Aggie Honor Pledge

Professor Jorge Vanegas
"On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work."

As stated previously in Section I, **all individual and team assignments** must include explicitly and formally the **Aggie Honor Code** or **Aggie Honor Pledge** somewhere within the assignment or in the "Comments" box in the assignment submission drop box.

**L. American with Disabilities Act (ADA) Policy Statement**

The **Americans with Disabilities Act** (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Cain Hall or call 845-1637.

**M. Final Notes**

This course offers students a chance to be truly **thoughtful, creative, innovative, profound, bold, and provocative...**

**THIS COURSE IS FOR YOU!**

**NOTE 1:**

Any assignment submitted that is **NOT** completed in a university-level or professional-level manner will automatically receive a grade of Unacceptable: High F; 55/100 points.

**NOTE 2:**

You will need to break out of the old "presentation style" paradigm... You should nurture the imagination! Experiment!

**NOTE 3:**

Keep in mind that humor is closely related to creativity!

**NOTE 4:**

Imagination, originality, ingenuity, excitement, inventiveness, and fantasy are stressed, valued, and rewarded!
**Attachment 1:**

**Course Schedule and Calendar**

There are two mechanisms to keep track of all the formal activities of the course. First, in this attachment students can find a table with detailed information on the activities during every week and every lecture of the course this semester. This section will be updated throughout the semester on an as-needed basis. The second mechanism is the **Calendar** menu option on the vertical menu bar located on the left side of the page in the course **eLearning Blackboard/VISTA**. This calendar will be populated on an on-going basis with the dates of submission of each individual and team assignment.

*Note: This schedule may change at any time during the semester, to accommodate any special circumstances that may arise. If a change occurs, students will be informed by email, and an addendum to this document will be issued.***

<table>
<thead>
<tr>
<th>Day/Date</th>
<th>Lecture Topic</th>
<th>Individual Assignments</th>
<th>Team Assignments</th>
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<tbody>
<tr>
<td><strong>Week 1</strong></td>
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<tr>
<td>Tuesday 27Aug'13</td>
<td><strong>Introduction:</strong> Overview of Course Myths, Content, Learning Outcomes, and Logistics</td>
<td><strong>Course Syllabus Officially Issued</strong></td>
<td><strong>None</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Lecturer:</strong> Dr. Jorge Vanegas</td>
<td><strong>Non-Disclosure Agreement Forms Issued</strong></td>
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<td></td>
<td></td>
<td><strong>Non-Disclosure Agreement Forms Due in Class</strong></td>
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<tr>
<td>Thursday 29Aug'13</td>
<td><strong>A New Paradigm in Higher Education for the Innovation Age:</strong> Transitions, Change, Harsh Realities, Complex Challenges, Severe Impacts, Accelerating Technological Developments, and Social Innovation</td>
<td><strong>Individual Graded Assignments Issued:</strong> I-1 through I-4</td>
<td><strong>None</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Lecturer:</strong> Dr. Jorge Vanegas</td>
<td><strong>Individual Graded Assignment I-1 Discussed:</strong> Creativity Journal/Portfolio – CJP</td>
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<td><strong>Individual Graded Assignment I-2 Discussed:</strong> Personal Branding Profile – PBP</td>
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<td><strong>Week 2</strong></td>
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<tr>
<td>Tuesday 03Sep'13</td>
<td><strong>Convergent, Divergent, and Provocative Thinking (Part 1)</strong></td>
<td><strong>None</strong></td>
<td><strong>None</strong></td>
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<tr>
<td></td>
<td><strong>Lecturer:</strong> Dr. Jorge Vanegas</td>
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<tr>
<td>Thursday 05Sep'13</td>
<td><strong>Convergent, Divergent, and Provocative Thinking (Part 2)</strong></td>
<td><strong>None</strong></td>
<td><strong>None</strong></td>
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<tr>
<td></td>
<td><strong>Lecturer:</strong> Dr. Jorge Vanegas</td>
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<tr>
<td>Day/Date</td>
<td>Lecture Topic</td>
<td>Individual Assignments</td>
<td>Team Assignments</td>
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<tr>
<td>Tuesday</td>
<td>• Intuition and Flow</td>
<td>• None</td>
<td>• None</td>
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<tr>
<td>10Sep'13</td>
<td>Lecturer: Dr. Jorge Vanegas</td>
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<tr>
<td>Thursday</td>
<td>• Creative Thinking</td>
<td>• Individual Graded Assignment T-3</td>
<td>• None</td>
</tr>
<tr>
<td>12Sep'13</td>
<td>Lecturer: Dr. Jorge Vanegas</td>
<td>Discusses: Individual Creativity Challenge – ICC (See instructions for details)</td>
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<td></td>
<td>• Individual Graded Assignment T-2 Due (E-Learning): PBP</td>
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<td>Week 4</td>
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<tr>
<td>Tuesday</td>
<td>• Developing High Performance Creative Teams:</td>
<td>• None</td>
<td>• Team Graded Assignments Issued: T-1 through T-4</td>
</tr>
<tr>
<td>17Sep'13</td>
<td>Team Roles, Team Building, and Team Dynamics</td>
<td></td>
<td>• Team Graded Assignment T-1 Discusses: Team Building Creativity Challenges – TBCC</td>
</tr>
<tr>
<td></td>
<td>Lecturer: Dr. Jorge Vanegas</td>
<td></td>
<td>• Team Graded Assignment T-2 Discusses: Team Branding Profile – TBP</td>
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<tr>
<td>Thursday</td>
<td>• Developing High-Performance Creative Organizations:</td>
<td>• None</td>
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<tr>
<td>19Sep'13</td>
<td>Culture, Environment, and Strategies</td>
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<tr>
<td></td>
<td>Lecturer: Dr. Jorge Vanegas</td>
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<tr>
<td>Week 5</td>
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<tr>
<td>Tuesday</td>
<td>• The Creativity, Innovation, Design, and Entrepreneurship</td>
<td>• None</td>
<td>• Team Graded Assignment T-3 Discusses: Team Creativity Challenge – TCC.</td>
</tr>
<tr>
<td>24Sep'13</td>
<td>Nexus</td>
<td></td>
<td>• Team Graded Assignment T-1 Due (in hard copy in class): TBCC</td>
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<tr>
<td></td>
<td>Lecturer: Dr. Jorge Vanegas</td>
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Professor Jorge Vanegas
### Week 5 (cont.)

<table>
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<tr>
<th>Day/Date</th>
<th>Lecture Topic</th>
<th>Individual Assignments</th>
<th>Team Assignments</th>
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</table>
| Thursday 26Sep'13 | • ideaMACHE  
Guest Lecturer: Team from the Interface Ecology Lab | • Special Individual Assignment Issued and Discussed: ideaMACHE | • None                 |
| Week 6                                                   |                                                                                              |                                                               |
| Tuesday 01Oct'13 | • Lecturer: Dr. Jorge Vanegas  
Managing Creativity and Innovation (1): Processes and Tools – IDEO | • None                                                       | • Team Graded Assignment T-2 Due (in eLearning): TBP          |
|               | Lecturer: Dr. Jorge Vanegas                                                   |                                                             |                        |
| Thursday 03Oct'13 | • Creativity Under Stress  
Guest Lecturer: Greg Hall, Driller's Supply, Inc. | • Special Individual Assignment Due (in eLearning): ideaMACHE | • None                 |
| Week 7                                                   |                                                                                              |                                                               |
| Tuesday 08Oct'13 | • Managing Creativity and Innovation (2): Processes and Principles – TRIZ  
Lecturer: Dr. Jorge Vanegas | • None                                                       | • None                 |
| Thursday 10Oct'13 | • Managing Creativity and Innovation (3): Practices and Resources  
Lecturer: Dr. Jorge Vanegas | • Individual Graded Assignment I-4  
Discussed: 5 Individual Soft Innovations –SiSI  
Individual Graded Assignment I-3 Due (in eLearning): ICC | • None                 |
| Week 8                                                   |                                                                                              |                                                               |
| Tuesday 15Oct'13 | • Communications and Creativity  
Lecturer: Dr. Jorge Vanegas | • None                                                       | • None                 |
| Thursday 17Oct'13 | • Intellectual Property  
Guest Lecturer: Darrel Kuhn, Texas Transportation Institute, Texas A&M University System | • None                                                       | • None                 |
<table>
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<tr>
<th>Day/Date</th>
<th>Lecture Topic</th>
<th>Individual Assignments</th>
<th>Team Assignments</th>
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<tr>
<td><strong>Week 9</strong></td>
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</table>
| Tuesday 22Oct'13 | **No Lecture:** Oral Presentations Team Creativity Challenge (Part 1)  
*Note:* ALL students MUST report to class. They will judge the presentations by the various teams | • None | • **Team Graded Assignment T-3 Due** (in eLearning): TCC  
• **T-3 Oral Presentations Due** (in class) – 1/3 of the Teams |
| Thursday 25Oct'13 | **No Lecture:** Oral Presentations Team Creativity Challenge (Part 2)  
*Note:* ALL students MUST report to class. They will judge the presentations by the various teams | • None | • **T-3 Oral Presentations Due** (in class) – 1/3 of the Teams |
| **Week 10** |
| Tuesday 29Oct'13 | **No Lecture:** Oral Presentations Team Creativity Challenge (Part 3)  
*Note:* ALL students MUST report to class. They will judge the presentations by the various teams | • None | • **T-3 Oral Presentations Due** (in class) – 1/3 of the Teams |
| Thursday 31Oct'13 | • **Humor and Creativity**  
**Lecturer:** Dr. Jorge Vanegas | • **Individual Graded Assignment I-4 Due** (in eLearning): SISI | • None |
| **Week 11** |
| Tuesday 05Nov'13 | • **Personal Space and Creativity**  
**Guest Lecturer:** Prof. Rodney Hill | • None | • **Team Graded Assignment T-4** Discussed: 5 Team Soft Innovations –5TSI |
| Thursday 07Nov'13 | • **Production of Knowledge and Creativity**  
**Lecturer:** Dr. Jorge Vanegas | • None | • None |
| **Week 12** |
| Tuesday 12Nov'13 | • **Accelerating Technologies**  
**Lecturer:** Dr. Jorge Vanegas | • None | • None |
<table>
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<tr>
<th>Day/Date</th>
<th>Lecture Topic</th>
<th>Individual Assignments</th>
<th>Team Assignments</th>
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<tr>
<td><strong>Week 12</strong></td>
<td><strong>(cont.)</strong></td>
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<tr>
<td>Thursday</td>
<td><strong>The Singularity</strong></td>
<td><strong>Individual Graded Assignment I-5 Issued and Discussed:</strong></td>
<td><strong>Team Graded Assignment T-5 Issued and Discussed:</strong></td>
</tr>
<tr>
<td>14Nov'13</td>
<td>Lecturer: Dr. Jorge Vanegas</td>
<td>Final Examination Essay – FEE)</td>
<td>Final Examination Slide Presentation / Video – FESP/V</td>
</tr>
<tr>
<td>Tuesday</td>
<td><strong>Gender and Creativity</strong></td>
<td><strong>None</strong></td>
<td><strong>Team Graded Assignment T-4 Due (in eLearning): 5TSI</strong></td>
</tr>
<tr>
<td>19Nov'13</td>
<td>Guest Lecturer: Prof. Rodney Hill</td>
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<tr>
<td>Thursday</td>
<td><strong>No Lecture – Thanksgiving Holiday</strong></td>
<td><strong>None</strong></td>
<td><strong>None</strong></td>
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<tr>
<td>21Nov'13</td>
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<td><strong>Week 14</strong></td>
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<tr>
<td>Tuesday</td>
<td><strong>Leadership and Creativity</strong></td>
<td><strong>None</strong></td>
<td><strong>None</strong></td>
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<tr>
<td>26Nov'13</td>
<td>Lecturer: Dr. Jorge Vanegas</td>
<td></td>
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<tr>
<td>Thursday</td>
<td><strong>The Dream-Do Nexus: Startup Appalachia</strong></td>
<td><strong>Individual Graded Assignment I-1 Due (in hard copy in the Dean's Office, College of Architecture): CIP</strong></td>
<td><strong>None</strong></td>
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<tr>
<td>28Nov'13</td>
<td>Lecturer: Dr. Jorge Vanegas</td>
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<td><strong>Week 15</strong></td>
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<tr>
<td>Tuesday</td>
<td><strong>Course Wrap-up and the Equation of Life</strong></td>
<td><strong>None</strong></td>
<td><strong>None</strong></td>
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<tr>
<td>03Dec'13</td>
<td>Lecturer: Prof. Jorge Vanegas</td>
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<tr>
<td>Friday</td>
<td><strong>Official Final Exam Schedule – 3–5pm</strong></td>
<td><strong>Individual Graded Assignment I-5 Due (in eLearning): FEE</strong></td>
<td><strong>Team Graded Assignment T-4 Due (in hard copy in the Dean's Office, College of Architecture): FESP/V</strong></td>
</tr>
<tr>
<td>06Dec'13</td>
<td><em>(The final exam for ENDS 101 is a take-home exam, so there will not be any in class examination.)</em></td>
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</table>
Attachment 2:
Suggested List of Books and/or Other Resource Materials

This course does not have a required textbook. Suggested readings will be announced in class, and posted to the course Blackboard/VISTA. Also, students are encouraged to seek assistance, and benefit from, the Texas A&M Libraries. As mentioned previously, the following URL contains a simple class guide developed for ENDS101, which contains links to a few library resources that some students may find useful.

http://guides.library.tamu.edu/ends101

In addition, the following sets of books are recommended as a complement and supplement to the course. This list will be updated on a regular basis.

On Ideas, Creativity, & Thinking


Professor Jorge Vanegas 22
ENDS 101; Fall Semester 2013
Course Syllabus


On Innovation


Professor Jorge Vanegas
ENDS 101; Fall Semester 2013
Course Syllabus


---

On Entrepreneurship & Business


Professor Jorge Vanegas
ENDS 101; Fall Semester 2013
Course Syllabus


On Social Innovations & Entrepreneurship


Professor Jorge Vanegas
ENDS 101; Fall Semester 2013
Course Syllabus


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On Inventions, Innovations, & Technology


Professor Jorge Vanegas 26
On the Future


Miscellaneous


Recalled from bookstores (as a result of fraud by the author)

Attachment 3:
Dr. V.'s Biographical Sketch

Dr. Jorge Vanegas graduated in 1979 with a degree in Architecture from the Universidad de los Andes, Bogotá, Colombia, South America, and is a registered Architect in Colombia. He subsequently graduated with a M.S. degree in 1985, and a Ph.D. degree in 1988, from the Construction Engineering and Management (CEM) Program of the Department of Civil and Environmental Engineering (CEE) at Stanford University, Stanford, California.

In July 2009, Dr. Vanegas began an appointment as Dean of the College of Architecture (CARC) at Texas A&M University (TAMU), having served as Interim Dean from August 2008 to July 2009. In addition, he is a tenured Professor in the Department of Architecture (ARCH), and has appointment as a Research Professor in the Texas Engineering Experiment Station (TEES) of the Texas A&M University System (TAMUS) since September 15, 2011. He held the Sandy and Bryan Mitchell Master Builder Endowed Chair in CARC from September 2008 to February 2012, and in addition, served as the Director of the Center for Housing and Urban Development (CHUD) from January 2006 to February 2012.

As Dean of CARC at TAMU, Dr. Vanegas is the current steward of (1) four departments (Architecture – ARCH; Construction Science – COSC; Landscape Architecture and Urban Planning – LAUP; and Visualization – Viza); (2) five research centers and one institute (the Center for Health Systems and Design – CHSD; the Center for Heritage Conservation – CHC; the Center for Housing and Urban Development – CHUD; the CRS Center for Leadership and Management in the Design and Construction Industry – CRS; the Hazard Reduction and Recovery Center – HRR; and the Institute for Applied Creativity – IAC); (3) a hands-on research/education fabrication and demonstration facility on a 13-acre site and a 10,000 sq. ft. facility at Texas A&M University's Riverside Campus; and (4) several study abroad programs throughout the world, including venues in Italy, Spain, and Germany, and special programs in various countries. With approximately 120 faculty members from a diverse range of disciplines, almost 2,000 undergraduate and graduate students, and over 65 staff, CARC/TAMU is one of the largest and best colleges of its kind in the nation.

As a Professor in ARCH, and since the spring semester of 2007, Dr. Vanegas has taught over 2,500 students in a unique multidisciplinary undergraduate course (ENDS101) open to students from diverse majors (from engineering, business, bio-tech, and life sciences, to veterinary medicine, liberal arts, agriculture, and design). The course provides a cohesive conceptual framework and an implementation roadmap for integrating creativity, innovation, and entrepreneurship into design education. The course (1) emphasizes the production of new knowledge, individually and in teams organized by mixed majors and genders, rather than the reproduction of existing knowledge; (2) addresses fundamental concepts of creativity and problem solving, creative thinking, humor, convergent and divergent thinking, and future studies, within a dual individual/team learning environment centered around design thinking, problem-based learning, and knowledge creation; and (3) provides an advanced learning environment and experience that prepares students as active creators of the future, encouraging them to think holistically as inventors, to cultivate an entrepreneur spirit and develop leadership skills, and to reach their potential creative talent. As Dean, he continues to teach.

As a Research Professor in TEES/TAMU, Dr. Vanegas has been leading efforts in seeking funding for multi- and interdisciplinary activities across the various Colleges at TAMU, and across various institutions within TAMU, as well contributing to other initiatives, all related to built environment sustainability, with a particular emphasis on energy.

As the Sandy and Bryan Mitchell Master Builder Endowed Chair in CARC, Dr. Vanegas had access to funding to support his teaching, research, service and professional development, and a concurrent role as director of the Mitchell Initiative, in charge of the coordination of activities of the Mitchell Studio, and professorships in construction science, real estate, land development, and design.
As Director of CHUD, Dr. Vanegas had the primary authority and responsibility for fulfilling the center's vision and achieving its mission, particularly, the Colonias Program. This program, housed within CHUD, was created in 1991 as a mandate from the Texas Legislature to address the needs of the "Colonias" along the Texas/Mexico Rio Grande border (i.e., low-income settlements with dirt roads, no water service, no sewer service, within which the community has very limited connection to the outside). CHUD's vision is to move disadvantaged communities (like the Colonias) from their current baseline of what is, to a vision of what they can be, by enhancing the quality of life (People) and of the built environment in which they live (Place), through the implementation of (1) a new paradigm of integration among Practice, Outreach, Service, Education, and Research, and (2) a new paradigm of knowledge creation and delivery of solutions that includes a continuum of Research, Development, Demonstration, Deployment, Evaluation, and Dissemination activities. CHUD's mission is the conception, development, and delivery of integrated, sustainable, customizable, flexible and adaptable, scalable, contextually sensitive, community-based, evidence-based, outcome-pulled, and technology-enabled solutions for both people and place. In fulfilling its vision, and achieving its mission, CHUD is bringing together disciplines associated directly and indirectly to the planning, development, delivery, operation, and maintenance of the Built Environment, to provide real solutions to real problems of real people, families, and communities, within advanced principles of sustainability (to define the "What" of products and outcomes), lean project definition, design, procurement, construction, and operation (to define the "How" of processes), and fully integrated and automated advanced technologies (to define the "With What" of resources).

Dr. Vanegas was also responsible for all the programmatic, financial, and personnel aspects related to programs, projects, activities, and events targeted at children, young men and women, adults, and the elderly, and for the communities in which they live, associated with the Colonias Program. Since his appointment as Director of the CHUD, he provided leadership and management oversight to (1) over $4.3 Million in legislative funding from the State of Texas, in support of the Center's infrastructure and administrative operations; (2) over $13.7 Million in funding secured from a wide range of other sources in the public and private sectors, in support of almost 60 projects benefitting residents of the Colonias along the Texas/Mexico border; and (3) almost $175 Thousand in support of other research and education projects. CHUD projects fall into six knowledge domains that come together as a cohesive whole: (1) health and human services; (2) education and workforce development; (3) economic development; (4) urban planning and design; (5) basic civil infrastructure systems (e.g., water, energy, transportation/mobility, wastewater/stormwater, and communications); and (6) housing and critical community facilities. Dr. Vanegas is responsible for the establishment, maintenance, and continuous expansion of an integrated infrastructure to support these programs, projects, activities, and events, which includes: (1) a physical infrastructure centered around three regional offices spanning the Western Rio Grande (El Paso), Central Rio Grande (Laredo), and Lower Rio Grande (Weslaco) areas along the border between Texas and Mexico, out of which CHUD manages the operations in 40 Community Resource Centers (with 6 others pending) embedded within communities; (2) a human infrastructure composed of 75 employees, with a core component of "Promotoras," who are members of these communities hired and trained as specialized outreach workers; (3) a transportation/mobility infrastructure centered around vans to mobilize residents from their residences to the programs, and back; and (4) a cyberinfrastructure connecting the physical, human, and transportation/mobility infrastructures to each other.

Before joining TAMU, Dr. Vanegas held academic appointments at Purdue University and at the Georgia Institute of Technology (Georgia Tech). In August 1988, he joined Purdue University, West Lafayette, Indiana, and from 1988 to 1993, he held an appointment as an Assistant Professor in the School of CE and the Division of CEM. Subsequently, in May 1993, he joined Georgia Tech with an appointment as an Associate Professor in CEM/CE, was granted tenure in 1996, held the Fred and Teresa Estrada Professorship in the College of Engineering (COE) from 1999 to 2005, and was promoted to Professor in 2005.

From 1988 to 2005, Dr. Vanegas was responsible for teaching undergraduate, graduate, and professional continuing education courses, and also leading and managing an active research program in the following primary domains: (1) built environment sustainability and security (facilities and civil infrastructure systems); (2) advanced strategies, tools, and methods for integrated capital asset delivery and management; (3) design/construction integration in the development and rehabilitation of facilities and civil infrastructure systems; (4) constructability programs and advanced modularization technologies; (5) undergraduate and graduate curricula development; and (6) continuing education and technology transfer program development. In these areas, Dr. Vanegas led and
managed active research and education programs, for which he secured over $3.7 Million in external funding for 51 research and education-related projects, from various funding sources from the public and private sectors.

During his tenure at Georgia Tech, Dr. Vanegas held three special appointments. First, he was an associated researcher in the applied research, technical assistance, and outreach programs of the Sustainable Facilities and Infrastructure (SFI) Branch and of the Center for Sustainable Urban Revitalization (CSUR), within the Safety, Health, & Environmental Technology Division (SHETD), of the Electro-Optics, Environment, & Materials Laboratory (EOEML) at the Georgia Tech Research Institute (GTRI). He was also an associated researcher in the Institute for Sustainable Technology and Development (ISTD) at Georgia Tech, formerly the Center for Sustainable Technology (CST). In this capacity, his primary responsibilities were to manage a four-year multidisciplinary research and development effort for a curriculum in sustainable development and technology to be deployed within the COE across its different engineering schools. He also provided support to various educational, dissemination and informational exchange initiatives, both within and outside the Institute. This project served as one of the original cornerstones for Georgia Tech’s current institutional commitment to sustainability through its education, research, and outreach programs, and also through its campus master plan and physical plant. Second, he held a joint appointment with the Army Environmental Policy Institute (AEPI) of the Department of the U.S. Army, through an intergovernmental Personnel Act (IPA) appointment, where he served as an AEPI Policy Analyst and Advisor in the area of Sustainability - Facilities, Infrastructure, Ranges, and Ecosystems (FIRE) in army installations. Finally, he held a joint appointment with the College of Architecture (COA) at Georgia Tech, where he served as Co-Director of the Construction Resource Center (CRC), formerly the Construction Research Center. In this capacity, his primary responsibilities were the development and implementation of an integrated, quality-driven, interdisciplinary, and institute-wide research and education infrastructure to advance the knowledge and practices of the Architectural, Engineering and Construction (A/E/C) industry. This was achieved through strong industry/academic partnerships, focused on more effective and efficient delivery of sustainable, cost-effective facilities and civil infrastructure to individuals, communities, and organizations locally, nationally, and internationally. The CRC is an information and knowledge enterprise that provides research and education capabilities to any organization involved in construction-related activities, to enhance the effectiveness and efficiency of its operations, develop and implement advanced technologies, and be more competitive and profitable. CRC capitalizes on the complete multidisciplinary resource base of Georgia Tech, through a joint collaboration of the Building Construction Program (BC) of the COA, the CEM Program in CEE of the COE, and various other academic and research units at Georgia Tech, as needed.

From Fall Semester 1999 to Spring Semester 2005, Dr. Jorge Vanegas held the COE Fred and Teresa Estrada Professor at Georgia Tech. In this capacity, he (1) developed a focused, multi-disciplinary, and self-sustaining institutional infrastructure for education, research, and outreach in sustainable affordable housing and related civil infrastructure systems, for the U.S. and the Americas; and (2) served as a mentor and advisor to the Hispanic Student Community within the COE, and other colleges. He also served as the Faculty Advisor for the Georgia Tech Society of Hispanic Professional Engineers Student Chapter, and also for the Georgia Tech Engineering Students Without Borders student chapter.

Overall, during the two decades of his academic career, Dr. Vanegas has documented and disseminated the results and findings from his scholarly activities in over 44 peer-reviewed publications in technical refereed journals, technical conference proceedings, industry reports, and book chapters; 92 non-refereed publications in conference proceedings, technical reports, and magazine articles; 36 invited keynote addresses, plenary lectures, and special lectures; 144 invited lectures and presentations at various technical events; and 8 poster sessions. To date, he has graduated 7 Ph.D. students as primary advisor, and served in doctoral advisory committees for 15 other students. At TAMU, Dr. Vanegas has taught 39 sections of one course to almost 2,000 students, since the spring semester of 2007. At Georgia Tech, from May 1993 to December 2005, he taught 95 different courses and sections to over 2,700 undergraduate and graduate students, maintaining an overall 4.1 average for teaching effectiveness. Dr. Vanegas also has been active in professional continuing education, developing and delivering courses to 35 organizations in the U.S., and from other countries, including Canada, Mexico, Costa Rica, Panama, Colombia, Brazil, and Spain. Finally, Dr. Vanegas has held numerous service appointments within TAMU, Georgia Tech, and Purdue, and also in U.S. and international organizations.

In addition, for 20 years, Dr. Vanegas has served as a technical advisor and a regular contributor, in various capacities, to the activities of different academic institutions, organizations, and companies within the U.S. and abroad. He has been active in the research and educational deployment efforts of the Construction Industry
Institute – CII (https://www.construction-institute.org/scriptcontent/) in constructability, the use of prefabrication, pre-assembly, modularization, and off-site construction, and innovative practices for cost-effective capital projects. He also has participated actively in programs of Local User Councils of the Business Roundtable BRT. Dr. Vanegas currently serves as a member of the Board of Directors of the FIATECH Consortium (http://fiatech.org); as the academic advisor to the Engineering and Construction Contracting Association – ECC (http://www.ecc-conference.org); as a member of the Consultative Committee to the Board of Directors of the International Center for Sustainable Development of the City of Knowledge in Panama (http://www.ciudaddelconocimiento.org/); and as a member of External Advisory Boards for several research and education centers. Dr. Vanegas is a current member of the American Institute of Architects (AIA). He is also a member of both the American Society of Civil Engineers (ASCE), serving as a member emeritus of the Committee on Sustainability of the Technical Activities Council, and a member of the Construction Research Council (for which he served as Chair in 1993), and the American Society for Engineering Education (ASEE). In addition, he is a past member of the Urban Land Institute (ULI), the Project Management Institute (PMI), the International Association of Bridge and Structural Engineers (IABSE), and the Society of Hispanic Professional Engineers (SHPE), and served as the past U.S. Director for the Inter-American Union for Housing (UNIAPRAVI).

In recognition of his research, teaching, and service accomplishments, Dr. Vanegas has received both National and Institution-wide awards, including: (1) the 2010 Achievement Award of the ECC, the 2007 FIATECH STAR Award for Superior Technical Achievements, the Society of Hispanic Professional Engineers Educator of the Year Award in 2001, the first CII Outstanding Instructor Award in 1995, and a National Science Foundation National Young Investigator Award (NSF/NYI) in 1992; and (2) one of the 2012 Distinguished Achievement Award for Teaching – College Level, from the Association of Former Students at Texas A&M University, and the 2004 Outstanding Faculty Service Award and the 1998 Outstanding Interdisciplinary Activity Award at Georgia Tech. Finally, Dr. Vanegas was elected as a member of the Pan American Academy of Engineering in October 2010.

Dr. Jorge Vanegas was born in Bogotá, Colombia. In 1983, he moved to the U.S., and in 1991, he became a U.S. citizen. He currently lives in College Station, Texas, with his wife Loretta, his two daughters Angela Maria Nichelle ('93) and Loren Marie Christine ('09), and his son Sean Michael ('96).