

TE 333: Creativity, Innovation, Vision

Technology Entrepreneur Center
GRAINGER ENGINEERING



Fall 2022

- 4 credit hours
- Tuesday/Thursday
- 11am-12:20pm
- 2320 DCL (Digital Computer Laboratory)

Instructor

Dr. Keilin Jahnke
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Office Hours

Sign up available at
<https://calendly.com/kjahnke/officehours>

Course Purpose

The purpose of this course is to **enhance your creativity, innovation, and vision.**

Learning Objectives

Upon completion of this course, you will be able to:

1. Define creativity, innovation, and vision.
2. Use a model as a means to represent the creative process in order to:
 - 2.1. find problems, including increasing your curiosity and ability to embrace problems as opportunities,
 - 2.2. master a set of tools to have ideas, while delaying decision making and tolerating ambiguity,
 - 2.3. take initiative, including prototyping to answer key questions and facilitate decision making,
 - 2.4. implement solutions, including marshaling resources and persisting.
3. Practice creativity skills regularly and use feedback to improve.
4. Arrange your lifestyle to enhance creativity.
5. Recognize when and how to apply creativity skills in your life.
6. Foster an environment for creativity, including dealing with obstacles to creativity.
7. Evaluate or critique your own ideas and those of others.
8. Understand and use theories of creativity.
9. Lead others in creative processes.
10. Communicate creatively and effectively.

Course Philosophy

Creativity is a vital skill that can be enhanced by learning. You enhance your creativity by becoming proficient with a set of *techniques*, developing a *mindset* that favors creative behaviors, and by establishing a *lifestyle* that promotes having ideas and bringing them to be.

Much of the knowledge you learn in this course will occur through reading, activities, and discussion. Class time will be used to discuss the readings and to work on applications in which you practice new skills by creating in a supportive environment. Class time will also involve reflection and feedback. By design, the course has many components, so staying organized, archiving what happens, and looking for connections will help you get the most from the experience.

Required Texts

1. Kelley, Tom and Kelley, David (2013) *Creative Confidence*. Crown.
2. Sawyer, Keith (2013) *Zig Zag: The Surprising Path to Greater Creativity*. Jossey-Boss.

Course Platforms

1. **Course materials and documents:** Canvas (canvas.illinois.edu)
2. **Submitting assignments:** Canvas (unless otherwise noted)
3. **Announcements:** Will be sent via Canvas, so set up Canvas to get these emailed to you

Technology Policy

While participating in class sessions, please only use the devices that will help you best learn (laptop, smartphone, tablet, etc.). Using a notebook and pen/pencil to jot down notes and ideas during class is highly recommended. Recording material from this course, including live class sessions and team meetings is forbidden. Additionally, sharing or posting recorded material online is prohibited and any violation of this policy will be forwarded to the Office of Student Conflict Resolution.

Attendance Policy

This course primarily uses active learning techniques during class sessions to work towards the course objectives. This includes small group and partner activities as well as whole class and small group discussions. Because of this, it is expected that you will attend class. If you are unable to attend a single class session, please notify the instructor prior to your absence. If you need to miss multiple, consecutive class sessions, please email the instructor and plan on signing up for office hours to get caught up with what you have missed as soon as you are able.

Assignment Format Policy

All assignments should be submitted to Canvas as a PDF. Other formats will not be accepted, unless otherwise noted. If you need assistance in creating PDFs on your device, please contact the instructor.

Resource: Illinois Writers Workshop

The Writers Workshop's mission is to support the University of Illinois community by providing free writing assistance for students, faculty, and staff from all disciplines and at all stages of the writing process. Whether you are working on a course paper, senior capstone, personal statement, group writing project, thesis or dissertation, or manuscript for publication, our consultants are available to help. Visit us at any stage of the writing process: brainstorming, organizing ideas, polishing final drafts, citing sources, and more. The Workshop offers online appointments, in-person appointments, and evening drop-in hours.

The Workshop also sponsors writing groups and provides hands-on presentations about academic writing skills. Find more information at writersworkshop.illinois.edu or learn more about our policies (<https://writersworkshop.illinois.edu/about-the-workshop/policies/>) and our services (<https://writersworkshop.illinois.edu/services/>).

Tentative Schedule and Assignment Due Dates

Week	Topic	Tuesday	Thursday
1	<ul style="list-style-type: none"> Principles of creativity Enhancing creativity Introduction to the creativity model 	August 23	August 25
2	<ul style="list-style-type: none"> Juxtaposition The role of curiosity in creativity and innovation 	August 30 Interests & Goals Presentation	September 1
3	<ul style="list-style-type: none"> Problem and opportunity identification techniques Introduction to bioinspiration 	September 6 Creativity Log – Check 1	September 8
4	<ul style="list-style-type: none"> Free association Discussion of <i>Creative Confidence</i> 	September 13 Read <i>Creative Confidence</i> & Submit Reflection	September 15
5	<ul style="list-style-type: none"> Brainstorming Introduction to pitching 	September 20	September 22 BioInspiration Team Project & Pitch
6	<ul style="list-style-type: none"> Ideation techniques Innovators and innovation Discussion of <i>Zig Zag</i> reading 	September 27 Creativity Log – Check 2	September 29 Read <i>Zig Zag</i> (Introduction + Step 1 + 2 + 3) & Submit Insights
7	<ul style="list-style-type: none"> Creativity and decision making in teams 	October 4 Semester Project Pitch	October 6
8	<ul style="list-style-type: none"> Ideation techniques Discussion of <i>Zig Zag</i> reading 	October 11 Creativity Log – Check 3	October 13 Read <i>Zig Zag</i> (Step 4 + 5 + 6) & Submit Insights
9	<ul style="list-style-type: none"> Synthesizing insights 	October 18	October 20 Semester Project Insights & Focus Report
10	<ul style="list-style-type: none"> Developing idea directions Discussion and application of <i>Zig Zag</i> reading Art and visual creativity 	October 25 Read <i>Zig Zag</i> (Step 7 + 8 + Conclusion) & Submit Insights	October 20
11	<ul style="list-style-type: none"> Peer teaching – topics in areas of student expertise 	November 1 You Teach Us – What You Know	November 3
12	<ul style="list-style-type: none"> Prototyping and storyboarding Assessing innovative ideas Introduction to implementation plans 	November 8 Election Day (no class)	November 10 Semester Project Directions & Ideas Report
13	<ul style="list-style-type: none"> Peer teaching – topics in creativity The role of empathy in creativity 	November 15 You Teach Us – Creativity & Innovation	November 17 Creativity Log – Check 4
Fall Break (no class)			
14	<ul style="list-style-type: none"> Vision as the foundation for creativity and innovation 	November 29	December 1 Semester Project Prototypes & Feedback Report
15	<ul style="list-style-type: none"> Creativity reflection and wrap up Course evaluations 	December 6 Creativity Log – Check 5	December 8 Reading Day (no class)
16		Final Exam Time December 9, 8-11am Semester Project Presentation	Due December 20 by 11:59pm Semester Project Final Report & Proposed Next Steps Semester Project Team Evaluation

Grading Overview

The assignments in this course are designed to help you enhance your creativity. Being a student is rigorous, so each assignment has been developed to purposefully promote your creative development.

Readings

<i>Creative Confidence</i> Reflection	40
<i>Zig Zag</i> Insights (3 assignments, 15 points each)	45

General Assignments

Interests & Goals Presentation	30
BioInspiration Team Project & Pitch	70
You Teach Us – What You Know	70
You Teach Us – Creativity & Innovation	70

Creativity Log

Check 1	45
Check 2	45
Check 3	45
Check 4	45
Check 5	75

Semester Project Part 1: Having Ideas

Pitch	25
Insights & Focus Report	50

Semester Project Part 2: Bringing Ideas to Be

Directions & Ideas Report	50
Prototypes & Feedback Report	50
Presentation	75
Final Report & Proposed Next Steps	90
Final Team Evaluation	30

Attendance, Preparation, and Participation

50

Total

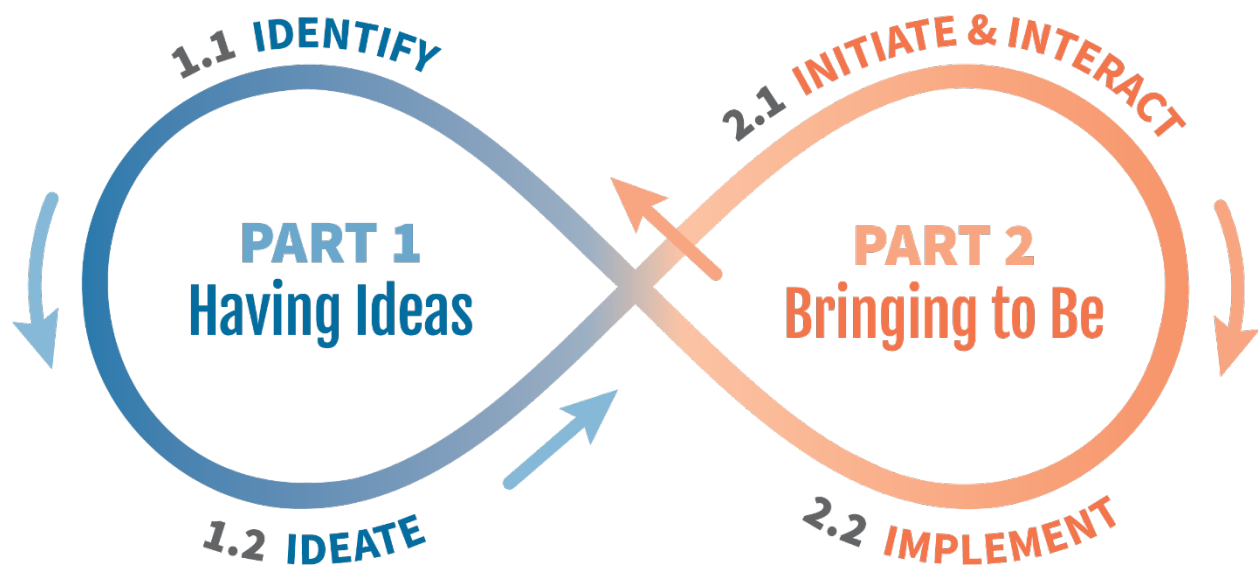
1000

Grading Scale

A+ 980-1000	B+ 870-899	C+ 770-799	D+ 670-699	F <600 points
A 930-979	B 830-869	C 730-769	D 630-669	
A- 900-929	B- 800-829	C- 700-729	D- 600-629	

Late assignments will be reduced 10% per day up to a maximum of 50% off and can be submitted through December 20th.

Model of Creativity



PART 1 | Having Ideas

1.1 Identify

- Cultivating curiosity
- Finding problems and opportunities
- Reframing
- Understanding
- Evaluating
- Applying wisdom

Evaluate – *Is it a good opportunity? Does it have value?*

1.2 Ideate

- Stockpiling knowledge
- Thinking analogically
- Connecting
- Ideation techniques
- Diverging before converging
- Tolerating ambiguity

Evaluate – *Is it a good idea? Is it innovative? Does it make a positive impact?*

2.1 Initiate & Interact

- Taking initiative
- Managing risks
- Prototyping
- Modeling
- Analyzing

Evaluate – *Is it a reasonable risk, project, product?*

2.2 Implement

- Marshaling resources
- Collaborating
- Managing time
- Stewarding money
- Persisting

Evaluate – *Is the problem solved? What needs adjustment?*

Iterate: At any point, loop back as needed.

COVID

Following University policy, all students are required to engage in appropriate behavior to protect the health and safety of the community. Students are also required to follow the campus COVID-19 protocols.

Students who feel ill must not come to class. In addition, students who test positive for COVID 19 or have had an exposure that requires testing and/or quarantine must not attend class. The University will provide information to the instructor, in a manner that complies with privacy laws, about students in these latter categories. These students are judged to have excused absences for the class period and should contact the instructor via email about making up the work.

Students who fail to abide by these rules will first be asked to comply; if they refuse, they will be required to leave the classroom immediately. If a student is asked to leave the classroom, the non-compliant student will be judged to have an unexcused absence and reported to the Office for Student Conflict Resolution for disciplinary action. Accumulation of non-compliance complaints against a student may result in dismissal from the University.

Emergency Response Recommendations

Emergency response recommendations can be found at the following website:

<http://police.illinois.edu/emergency-preparedness/>. I encourage you to review this website and the campus building floor plans website within the first 10 days of class.

<http://police.illinois.edu/emergency-preparedness/building-emergency-action-plans/>.

Sexual Misconduct Reporting Obligation

The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University's Title IX Office. In turn, an individual with the Title IX Office will provide information about rights and options, including accommodations, support services, the campus disciplinary process, and law enforcement options.

A list of the designated University employees who, as counselors, confidential advisors, and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found here: wecare.illinois.edu/resources/students/#confidential. Other information about resources and reporting is available here: wecare.illinois.edu.

Academic Integrity

You are expected uphold the highest ethical standards, to be honest, and to practice academic integrity.

This includes doing original work and citing sources, including the work of other students. Please give special care to prepare high-quality submissions with proper grammar and spelling. The University of Illinois at Urbana-Champaign Student Code should also be considered as a part of this syllabus.

Students should pay particular attention to Article 1, Part 4: Academic Integrity. Read the Code at the following URL: <http://studentcode.illinois.edu/>. Academic dishonesty may result in a failing grade.

Every student is expected to review and abide by the Academic Integrity Policy:

<https://studentcode.illinois.edu/article1/part4/1-401/>. Ignorance is not an excuse for any academic dishonesty. It is your responsibility to read this policy to avoid any misunderstanding. Do not hesitate to ask the instructor if you are ever in doubt about what constitutes plagiarism, cheating, or any other breach of academic integrity.

Religious Observances

Illinois law requires the University to reasonably accommodate its students' religious beliefs, observances, and practices in regard to admissions, class attendance, and the scheduling of examinations and work requirements. You should examine this syllabus at the beginning of the semester for potential conflicts between course deadlines and any of your religious observances. If a conflict exists, you should notify your instructor of the conflict and follow the procedure at <https://odos.illinois.edu/community-of-care/resources/students/religious-observances/> to request appropriate accommodations. This should be done in the first two weeks of classes.

Disability-Related Accommodations

To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES, you may visit 1207 S. Oak St., Champaign, call 333-4603, email disability@illinois.edu or go to <https://www.disability.illinois.edu>. If you are concerned you have a disability-related condition that is impacting your academic progress, there are academic screening appointments available that can help diagnosis a previously undiagnosed disability. You may access these by visiting the DRES website and selecting "Request an Academic Screening" at the bottom of the page.

Family Educational Rights and Privacy Act (FERPA)

Any student who has suppressed their directory information pursuant to Family Educational Rights and Privacy Act (FERPA) should self-identify to the instructor to ensure protection of the privacy of their attendance in this course. See <https://registrar.illinois.edu/academic-records/ferpa/> for more information on FERPA.

Anti-Racism and Inclusivity Statement

The Grainger College of Engineering is committed to the creation of an anti-racist, inclusive community that welcomes diversity along a number of dimensions, including, but not limited to, race, ethnicity and national origins, gender and gender identity, sexuality, disability status, class, age, or religious beliefs.

The College recognizes that we are learning together in the midst of the Black Lives Matter movement, that Black, Hispanic, and Indigenous voices and contributions have largely either been excluded from, or not recognized in, science and engineering, and that both overt racism and micro-aggressions threaten the well-being of our students and our university community.

The effectiveness of this course is dependent upon each of us to create a safe and encouraging learning environment that allows for the open exchange of ideas while also ensuring equitable opportunities and respect for all of us. Everyone is expected to help establish and maintain an environment where students, staff, and faculty can contribute without fear of personal ridicule, or intolerant or offensive language. If you witness or experience racism, discrimination, micro-aggressions, or other offensive behavior, you are encouraged to bring this to the attention of the course director if you feel comfortable. You can also report these behaviors to the Bias Assessment and Response Team (BART) (<https://bart.illinois.edu/>). Based on your report, BART members will follow up and reach out to students to make sure they have the support they need to be healthy and safe. If the reported behavior also violates university policy, staff in the Office for Student Conflict Resolution may respond as well and will take appropriate action.