



Technology Entrepreneur Center ACADEMICS



ILEE DEGREE



INNOVATION LEADERSHIP & ENGINEERING ENTREPRENEURSHIP

The Innovation, Leadership, and Engineering Entrepreneurship (ILEE) degree in The Grainger College of Engineering isn't just for students who want to create a startup—it helps create entrepreneurial-minded leaders which are in demand by large companies as well. The ILEE degree accelerates engineering students' understanding of the innovation ecosystem and processes involved in identifying complex technical problems, and then leading efforts to developing value-creating solutions. This degree is currently offered as a dual bachelor's degree to existing engineering students.

ELIGIBILITY

- Have a desire to develop or build upon their existing innovation, leadership, and/or entrepreneurial skills.
- Have completed at least one semester in Grainger Engineering by December of this year (*includes Chemical Engineering, LAS*).
- Have a minimum cumulative Illinois GPA of 2.75 when applying for the ILEE dual degree. (*The cumulative Illinois GPA will be pulled from the system once the current semester ends. This is what is taken into consideration for applications*).
- Be confident that graduation certification by Grainger Engineering will occur within 10 semesters of the dual degree starting date.
- Must apply before the beginning of the final semester of graduating year.

IMPACT

- Adds value to primary engineering degree by adding entrepreneurial and leadership skillset.
- Close cross-campus collaboration with courses taught by faculty from Grainger Engineering, Gies Business, Art & Design, and others.
- Launched in the Spring 2017.
- Strong emphasis on hands-on experiential learning with opportunities for students to earn credit working on their own startup, or other extracurricular project.

ILEE DEGREE



REQUIREMENTS

- Complete all requirements specified for the Grainger Engineering “home department”/ primary degree, and an additional 30 credit hours for the second (ILEE) degree, for a minimum of 158 credit hours. *(Students may work towards the ILEE degree at the same time as the primary degree, OR take the additional 30 credit hours after completing the requirements for the primary degree. For details, see go.illinois.edu/academicpolicies).*
- Additional hours for the ILEE degree must be completed on the Urbana campus, as noted in University policies, and must be completed over at least one year/two additional semesters (10 semesters to complete both degrees).
- Plan carefully—courses counting towards the ILEE degree cannot be used in meeting the Grainger Engineering “home department” degree requirements.
- **GPA REQUIREMENT:** Minimum GPA of 2.75 maintained in ILEE core courses and remain in good standing in the Grainger Engineering home department.

To apply and for more information, visit
go.illinois.edu/ILEE

ILEE CURRICULUM

TOTAL CREDITS: 31

TE 100/TE 200 | 1 CREDIT HR.

Introduction to Innovation, Leadership,
& Engineering Entrepreneurship

TE 230 (FALL) | 3 CREDIT HRS.

Design Thinking/Need-Finding

TE 250 | 2 CREDIT HRS.

High-Tech Ventures: From Idea to Enterprise

TE 333 | 4 CREDIT HRS.

Creativity, Innovation, Vision

TE 360 | 1 CREDIT HR.

Lectures in Engineering Entrepreneurship

SE 361 (FALL) | 3 CREDIT HRS.

Emotional Intelligence

TE 398 | 2 CREDIT HRS.

Innovation & Engineering Design

TE 401 | 4 CREDIT HRS.

Developing Breakthrough Projects

TE 450 | 3 CREDIT HRS.

Startups: Inc, Funding, Contracts & IP

TE 461 | 3 CREDIT HRS.

Technology Entrepreneurship

TE 466 | 2 CREDIT HRS.

High Tech Venture Marketing

TE 498 (SPRING) | 3 CREDIT HRS.

Leading Sustainable Change

Visit the Course Explorer for more details:
courses.illinois.edu

TEC CERTIFICATES



TEC offers four certificates. Each certificate requires students to take one or two core classes and a combination of elective courses or experiences within TEC and/or the University. Students must apply for certificates before the beginning of the final semester of the graduating year.

INNOVATION



This certificate program is designed for students whose interests and abilities are in entrepreneurship, innovative product design, and transformative technical products and services. The program consists of a set of courses that

have been designed to encourage students to become more innovative and to generate ideas that have the potential to be breakthrough new products.

TECHNOLOGY COMMERCIALIZATION



With an emphasis on creativity and innovation, this certificate program provides students with the knowledge base needed to explore various options for commercializing technology, which is becoming increasingly important for engineers

and scientists to understand. The courses allow students to gain a general understanding of the technology commercialization landscape, and how to apply that knowledge.

To learn more about TEC Certificates, visit
go.illinois.edu/Certificates

BUSINESS MANAGEMENT FOR ENGINEERS



This certificate is a graduate level program designed for students with an engineering or technology background who aspire to rise in management, make higher level strategic business decisions, and hone leadership skills.

This certificate will provide students with the tools necessary in proposing and managing initiatives and evaluating technology innovation from a business standpoint. These courses are applicable to students who are or want to be entrepreneurial in starting a company, working for a startup, or bringing business management skills into their career at an existing company.

STRATEGIC TECHNOLOGY MANAGEMENT



This certificate is a graduate level program for students with an engineering background who aspire to lead a venture, make higher level strategic technology/business decisions, and develop leadership skills.

This certificate will help students understand how to incubate new ventures, and participate in the process of innovation and market adoption within corporate environments. These courses are applicable to students who are or want to be entrepreneurial in starting a company, working for a startup, or bringing strategic technology management skills into their career at an existing company.

TEC COURSES

Course information is current as of this printing, and is subject to change.

TE 100 | Introduction to Innovation, Leadership, & Engineering Entrepreneurship

RANJITHA KUMAR | 1 CREDIT HR.

Learn about innovation, identify key attributes of innovation leadership, and practice innovation leadership personally and professionally. Hone your written and verbal presentation skills, and complete a personal plan for continuing to develop your innovation leadership skills. *Open to all majors, no pre-requisites.*

TE 110 | Communicating & Presenting in Engineering

**JENNY AMOS, MARIE-CHRISTINE BRUNET
2 CREDIT HRS. | SAME AS ENG 110**

Restricted to engineering majors.

This course focuses on presentation techniques. Both didactic and hands-on training in tailoring presentation content, visual aids, delivery, and team dynamics.

TE 200 | Introduction to Innovation

SAMANTHA KOON | 1 CREDIT HR.

Restricted to Innovation LLC students.

Fundamental concepts of entrepreneurship, creativity and innovation will be explored within the context of new and existing businesses. Creative thinking and inventive problem solving will be emphasized.



TE 230 | Design Thinking/Need-Finding

**DAVID WEIGHTMAN
3 CREDIT HRS. (FALL)
SAME AS ARTD 230**

Develop detailed concepts and models of authentic new products and services. Learn to implement user-oriented, collaborative approaches to

design and seeking holistic solutions integrating user and functional perspectives. The importance of process and the development of strategies is emphasized.

TE 250 | From Idea to Enterprise

HARLEE SORKIN | 2 CREDIT HRS.

Fundamentals of technology entrepreneurship and critical areas of the entrepreneurship process including creating a successful startup, transforming it into a sustainable business, validating an idea, taking it to market, evaluation of new

ideas, forming high-performance teams, and financing a technology-based startup. Field trips to local startups, Research Park, and EnterpriseWorks incubator.

TE 298 | Communication for Tech Innovators

HARLEE SORKIN | 1 CREDIT HR.

This class explores the common characteristics of messages that influence people to change their behavior. It follows the framework in the book *Made to Stick*, by Chip & Dan Heath, and consists of brief and fun exercises designed to hone those skills. This course is valuable to everyone, but especially useful for innovators who must pitch their ideas to partners, investors and customers.

TE 333 | Creativity, Innovation, Vision

**KEILIN JAHNKE
4 CREDIT HRS.**

Enhancement of personal creativity via exploration of the nature of creativity, how creativity works, and how to envision what others may not, and how to nurture a creative life-style. Application to a major term project providing the opportunity to move an idea, product, process, or service from vision to reality. *Open to all majors, campus wide.*



TE 360 | Lectures in Engineering Entrepreneurship

1 CREDIT HR. (Undergrad Only)

- **CHRIS HARBOURT** (Section A)
- **MARISSA SIERO** (Section INN, *Restricted to Innovation LLC Students*)

Fundamental concepts of entrepreneurship and commercialization of new technology in new and existing businesses. Guest speaker topics vary, but typically include evaluation of technologies and business ideas, commercializing new technologies, financing through private and public sources, legal issues, product development, marketing, and international business issues.

TE 398 F | Bootstrap to VC: Funding Your Startup

HARLEE SORKIN | 2 CREDIT HRS.

This course will examine a host of ways that aspiring tech entrepreneurs might cobble together enough cash to make

TEC COURSES

their ideas come to life. The course will explore the difference between equity, non-dilutive and strategic funding sources. The course will follow this chronological progression of an early-stage venture and cover likely funding sources at each stage.



TE 398 WP | Hip Hop Entrepreneurship

WILL PATTERSON
3 CREDIT HRS.

SAME AS AFRO 398

Explore the cultural landscape of urban America and how technology, engineering, and social entrepreneurship are contextualized and repurposed to enhance existing industries.

Look at how to redevelop existing urban spaces and envision how new millennial spaces will look and function. Principals in fundraising, incubating, marketing, business plan development, sales, intellectual property protection, and business management will be explored.

TE 398 PSC | Innovation & Engineering Design

CHRIS HARBOURT | 2 CREDIT HRS.

SAME AS ECE 398 PSC

Explore the process to identify needs and potential engineering solutions, and to foster innovation. Learn ideation and problem identification aspects of engineering senior design.

TE 401 DT | Introduction to Design Thinking

A. HENDERSON | 1-4 CREDIT HRS.

This course, developed by Siebel Center for Design, will provide guidance to students in learning and building competency in the design thinking process to develop innovative outcomes. Have an idea? We can help you refine it through the principles of design thinking. Looking for an idea? We can walk you through the design thinking process to search for opportunity areas.

TE 401 DTH | Design Thinking for Health

A. HENDERSON | 1-4 CREDIT HRS.

This course, developed by Siebel Center for Design, will provide guidance to students in learning and building competency in the design thinking process to identify need and opportunity within the spectrum of healthcare.

TE 401 DTS | Design Thinking for Social Innovation

R. DIETKUS | 1-4 CREDIT HRS.

This course, developed by Siebel Center for Design, tackles social needs and issues through an immersive exploration of design thinking. Social innovation seeks to create transformational change in underserved, underrepresented, and disadvantaged communities at the local to international levels. We know that many social issues are often too complex to be solved by using traditional methods.

TE 401 DTT | Design Thinking for Transformable Structures

A. HENDERSON, A. PAGANO | 1-4 CREDIT HRS.

Design Thinking for Transformable Structures, developed by Siebel Center for Design, will provide guidance to students in learning and building competency in the design thinking process, while also exploring the fundamentals of transformable structures. Projects within this section will focus on identifying need and opportunity in a variety of environments where structures able to transform in shape may be beneficial.

TE 401 F | Augmented Listening Technology

ANDY SINGER

1-4 CREDIT HRS.

In this project-based experiential course, students will develop prototypes, design experiments, and collect data to explore the capabilities of multichannel augmented listening devices using large sensor arrays and state-of-the-art signal processing methods. The collaborative project will incorporate electronic hardware design, laboratory experiments, and data analysis. Students will have the opportunity to pursue individual research.



TE 450 | Startups: Inc, Fund, Contracts, IP

JOE BARICH | 3 CREDIT HRS. (Undergrad/Grad)

Explore legal tools used in constructing and operating companies. Topics include: issues with business formation, intellectual property, NDA, contracts, and other corporate legal issues impacting startups.

TE 460 | Lectures in Engineering Entrepreneurship

CHRIS HARBOURT | 1 CREDIT HR. (Undergrad/Grad)

- **SECTION A** - In person, for on campus students
- **SECTION ONC** - Online, for students on campus

ALSO
ONLINE

TEC COURSES

- **SECTION ONL** - For off-campus students taking only online courses

Fundamental concepts of entrepreneurship and commercialization of new technology in new and existing businesses. Guest speaker topics vary, but typically include evaluation of technologies and business ideas, commercializing new technologies, financing through private and public sources, legal issues, product development, marketing, and international business issues.

TE 461 | Technology Entrepreneurship

BRIAN LILLY | 3 CREDIT HRS.
(Undergrad/Grad)

ALSO
ONLINE

- **SECTION A** - In person, for on campus students
- **SECTION ONC** - Online, for students on campus
- **SECTION ONL** - For off-campus students taking only online courses

Product design, marketing, financials, and the general business planning preparation required for start-up companies. Many startup companies have emerged from this course. Students can work in teams (members can be from outside of class) or individually. Students without a particular idea may be provided an option to participate in PIRL (Product Innovation Research Lab) with the School of Art & Design, but spots are limited.

TE 466 | High Tech Venture Marketing

SHAHBAZ GILL | 2 CREDIT HRS.
(Undergrad/Grad)

ALSO
ONLINE

- **SECTION A** - In person, for on campus students
- **SECTION ONC** - Online, for students on campus
- **SECTION ONL** - For off-campus students taking only online courses

Cornerstone marketing concepts for innovators and engineers to enable analysis of products and technologies from a marketing perspective: engineering product development and adoption life cycle; objectives and strategies; marketing management; communication skills; sales process and tactics; special considerations for new high-tech engineering products and innovations.

TE 498 NJI | iVenture Accelerator Seminar/Topics in Engineering

NOAH ISSERMAN | 3 CREDIT HRS.

This course is open to students admitted to the iVenture Accelerator. Learn theory and context to enhance experiential learning-by-venturing. Topics include: feasibility analysis, business modeling, industry analysis, competitor analysis, ethical and legal foundations, corporate forms,

accessing financing and funding, marketing for startups, intellectual property protection and commercialization, and planning for growth.

TE 498 | Leading Sustainable Change

BETH HOAG, GAYLE SPENCER | 3 CREDIT HRS
(SPRING)

Theories and process of change; systems thinking concerning change consequences; building coalitions and communities to support change; implementing and managing projects effectively. Processes to plan, implement, manage, and sustain change with an organization through alignment of change strategies with organizational and individual concerns.

TE 565 | Technology, Innovation, & Strategy

SANJIV CHOPRA | 2 CREDIT HRS.
(Grad Only)

ONLINE
ONLY

- **SECTION ONC** - Online, for students on campus
- **SECTION ONL** - For off-campus students taking only online courses

Concepts and frameworks for analyzing how firms can create, commercialize and capture value from technology-based products and services. Business, commercialization, and management aspects of technology. Emphasis on reasons that existing firms or startups which have successfully commercialized products or services fail to sustain their success as technology changes and evolves.

TE 566 | Finance for Engineering Management

BRIAN LILLY
2 CREDIT HRS.

ALSO
ONLINE

- **SECTION A**
In person, for on campus students
- **SECTION ONC**
Online, for students on campus
- **SECTION ONL** - For off-campus students taking only online courses

Cornerstone financial concepts for engineering management to enable analysis of engineering projects from a financial perspective: income statements, the balance sheet, cash flow statements, corporate organization, the time value of money, net present value, discounted cash flow analysis, portfolio theory.



TEC COURSES

TE 567 | Venture Funded Startups

SANJIV CHOPRA | 1 CREDIT HR.
(Grad Only)

ONLINE
ONLY

• SECTION ONC

Online, for students on campus

• SECTION ONL - For off-campus students taking only online courses

Concepts, tools, and language used by venture capitalists (VCs). Venture-scale opportunity assessment and articulation, venture capital financing and valuation, deal structure, term sheets, financial plans for startups, customer development and marketing, product iterations, sales execution.

TE 598 C2 | Creativity, Innovation, Vision

KEILIN JAHNKE | 4 CREDIT HRS.

Enhancement of personal creativity via exploration of the nature of creativity, how creativity works, and how to envision what others may not, and how to nurture a creative lifestyle. Application to a major term project providing the opportunity to move an idea, product, process, or service from vision to reality. *Open to all majors, campus wide.*

TE 598 AC | Advancing Creativity

KEILIN JAHNKE | 4 CREDIT HRS. (Grad Only)

- **PREREQUISITES:** TE 598 C2 (Creativity, Innovation, Vision) and consent of instructor.

TE 598 | Communication for Tech Innovators

HARLEE SORKIN | 1 CREDIT HR. (Grad Only)

This class explores the common characteristics of messages that influence people to change their behavior. It follows the framework in the book, *Made to Stick*, by Chip & Dan Heath and consists of brief and fun exercises designed to hone those skills. This course is valuable to everyone, but especially useful for innovators who must pitch their ideas to partners, investors and customers.

Questions?

Please contact Terry Cole at
twcole@illinois.edu

TEC PROGRAMS



COZAD NEW VENTURE CHALLENGE

Cozad is designed to encourage students to create new businesses. The campus-wide competition provides mentoring to teams through the phases of venture creation, and holds workshops on idea validation, pitching skills, and customer discovery. In 2019, more than \$200k in cash and in-kind prizes was awarded.



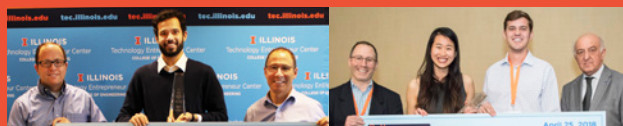
SOCIALFUSE

SocialFuse is a recurring pitching and networking event. Attendees pitch their startup ideas, find teammates, improve presentation skills, and get feedback on their ideas.



SILICON VALLEY ENTREPRENEURSHIP WORKSHOP

This annual, week-long educational trek to Silicon Valley features corporate leaders, venture capitalists, and entrepreneurial alumni in various stages of the startup lifecycle that share lessons learned about entrepreneurship. Students have visited companies like Yelp, Tesla, Andreessen Horowitz, and Y Combinator.



ILLINOIS INNOVATION PRIZE

This \$20,000 prize is awarded annually to a creative, passionate, and entrepreneurially minded student on campus who is working on a novel innovation with the potential to create a positive impact.

Learn about these and other TEC programs at:
tec.illinois.edu

QUICK LINKS

ILEE Degree

go.illinois.edu/ILEE

TEC Certificates

[go.illinois.edu/
Certificates](http://go.illinois.edu/Certificates)

Course Explorer

courses.illinois.edu

TEC Programs

tec.illinois.edu

Terry Cole

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