

REQUEST FOR NEW ADMINISTRATIVE, RESEARCH OR PUBLIC SERVICE UNIT

BACKGROUND

1. **Name of Institution:** University of Illinois at Urbana-Champaign
2. **Title of Proposed Unit:** Technology Entrepreneur Center
3. **CIP Code (6-digits):** _____
4. **Proposed Date for Initiation of Unit:** January 1, 2007
5. **Contact Person:** Dr. Andrew C. Singer, Director
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PURPOSE: OBJECTIVES, MISSION AND PRIORITIES

6. Unit Objectives and Contributions

- 6.1. What are the goals and objectives of the new unit?

The foremost objective of the Technology Entrepreneur Center (TEC) is to provide the education, experiences, and resources that engineering students and faculty need in order to become successful entrepreneurs through leadership and the creation of new ventures. The TEC will strive to enable the University of Illinois to be as successful and well-known for the talents of its entrepreneurs as it is for the talents of its engineers. The center was originally established in the Department of General Engineering with help from a statement of support from the Technology Entrepreneur Efforts Committee in 1999. The Committee consisted of Associate Deans and Department Heads from LAS, ACES, Veterinary Medicine, Commerce, Law, and Engineering. Since then, the TEC has been elevated to a college-level unit in order to best serve all of the College of Engineering students and faculty, rather than those of a single department. The Center offers on-site and online courses and certificate programs for professional development. Additionally, the Center offers support of graduate students throughout the college, including the M.S. and Ph.D. in Systems and Entrepreneurial Engineering. Beyond the classroom, students can pursue prototype development in the Student Entrepreneur Learning Lab (SELL), join the Collegiate Entrepreneurs' Organization (CEO), or compete for funds in the annual V. Dale Cozad Business Plan Competition. In addition, the Center has many University of Illinois alumni and other committed individuals actively involved through its Professional Resource Network. Many students have a desire to start, develop, and lead their own companies. To this end, the Center will help to build the aptitude of students and

faculty to cultivate, develop, test and evaluate ideas; an expertise that is inherently necessary for successful entrepreneurs and their companies.

- 6.2. What is the relationship of the unit to the university's mission and priorities? Is the unit involved in instruction and, if so, to what extent?

The Technology Entrepreneur Center administers programs that exemplify several areas of the University's mission, vision and strategic plan. Specifically, TEC programs directly serve the education and economic development factors of the University's mission. The TEC serves as an enabling agency for those students and faculty pursuing commercializing technology by offering courses and resources to aid in the process.

Relative to **education**, the TEC offers 11 undergraduate- and graduate-level courses in topics that prepare students for issues they will face in starting a venture. The Center also provides support to graduate students in the Department of Industrial and Enterprise Systems Engineering (IESE)'s M.S. and Ph.D. programs in Systems and Entrepreneurial Engineering. The Center's courses are offered online, through the Office of Continuing Engineering Education, to those engineers who are already in the workforce, but would like further knowledge and training in the area of technology entrepreneurship. The College of Engineering also offers two certificate programs through the TEC: the undergraduate Certificate in Technology Commercialization covers principles and practices of technology commercialization and management and is open to undergraduate engineering students; and the graduate/professional Strategic Technology Management (STM) Certificate program is designed to provide a multiplier effect on the value of an engineering degree by offering students the opportunity to explore the ways that technological innovations are created and adopted throughout the modern world. The required courses for the STM certificate integrate concepts of business strategy and the entrepreneurial process of innovation. Electives for the certificate are intended to allow students to choose one or more focus areas in order to develop strengths in legal, finance, design, or leadership issues and to complement the main focus of technology strategy. Current and future TEC courses will serve as electives for completion of the campus-wide entrepreneurship minor, which is currently being created. Complementary to education in the classroom, the Center houses the Student Entrepreneur Learning Lab (SELL) which is intended to provide the equipment that engineering students need in order to pursue their own product innovations, and provide hands-on learning experiences. Students have access to the laboratory through the Center's courses and other activities, and are able to use it in order to apply the knowledge they've acquired in their engineering courses to product development. A laboratory like the SELL that is college-wide provides an additional path to technology commercialization for students. Additionally, the TEC is administering the \$30,000 Lemelson-Illinois Prize, in conjunction with the Lemelson-MIT Program. The prize is a campus-wide initiative, open to all undergraduate and graduate students at Illinois. The program is meant to recognize and reward a current student of the University of Illinois at Urbana-Champaign for outstanding innovation and creativity; and to generate excitement about innovation and entrepreneurship in students by showcasing role models in engineering and science. The prize will highlight education in engineering and entrepreneurship to a widespread audience.

With respect to **economic development**, the TEC administers several programs which serve the University's guiding principle to speed the transfer of knowledge from

academia to the public. The TEC created an Illini-TEC Forum in Chicago and St. Louis (with plans to expand to additional markets). The events attract an audience of Illinois alumni and entrepreneurs. The sponsor of the event, who is generally an expert in an area of entrepreneurship, gives a presentation that addresses this area. This speaker is followed by a student group who showcases an innovation/business idea that they have developed, and receives feedback from the audience members. These programs allow the Center an opportunity to present students' ideas and a snapshot of what is happening in innovation at Illinois to a broader audience. Another program that the Center administers is the V. Dale Cozad Business Plan Competition, which is designed to encourage students of all disciplines, researchers, and community members to create new sustainable businesses in the Champaign-Urbana area. The Competition is held annually, and fosters the development of the entrepreneurial spirit through teamwork and competition. Contestants are invited to create a business plan around an idea of their choice. Assistance is available in the form of mentors, workshops, and courses to guide contestants through the phases of business plan creation. Finalist teams compete for \$50,000 in cash and service prizes which are donated annually to the TEC by outside benefactors. The Lemelson-Illinois Prize also serves the goal of economic development by allowing the University to showcase its students' innovations on a national and global stage. The press coverage will be complemented by the winner of the Lemelson-Illinois Prize visiting high schools in order to present their invention and promote the University's engineering and science programs, in order to generate excitement about science and engineering in our youth and encourage more students to enter these fields. Lastly, the TEC composes and distributes a newsletter to over 20,000 alumni and other individuals interested in technology commercialization at Illinois. The Center continually updates and expands its courses and other activities to meet the growing and changing needs of the college's students and faculty in the area of technology commercialization.

6.3. What specific needs and measurable contributions will the unit make to statewide priorities and needs?

The State of Illinois has made economic development and job creation one of its foremost priorities. Entrepreneurship and job creation are closely interrelated. Small businesses account for nearly half of the nation's private sector jobs. As the economy continues to rely more on small businesses for economic development, entrepreneurship and instilling an entrepreneurial spirit in young adults is going to become increasingly important. The Technology Entrepreneur Center is administering courses, events, competitions, and other programs that are preparing the state's next generation of entrepreneurs – the engineering students at the University of Illinois – for this economic climate. For example, the TEC administers the V. Dale Cozad Business Plan Competition in which it awards \$50,000 in cash and service resources to teams who have created businesses around the innovations they've discovered through their coursework at the University. Several of those businesses, in addition to others emanating from the University, are housed at EnterpriseWorks, the business incubator in the University's Research Park. Several College of Engineering faculty have also started companies in the area, furthering the state's economic development goal. The Center also serves as an enabling organization for technology transfer at the University of Illinois, by assisting the Office of Technology Management whose mission is identifying, evaluating, protecting, marketing and licensing intellectual property developed at the University. OTM currently has a goal to increase the number of technology disclosures and licensing revenue a level that is competitive with peer

institutions. The students involved with the Technology Entrepreneur Center will be a likely source of these technologies as they work with faculty in the many research laboratories within the University.

- 6.4. What is the demand for the unit's services? What clients or population will the unit serve?

The Center has awarded over forty professional development certificates in technology commercialization to undergraduate and graduate students as well as engineering professionals. In addition, enrollment in courses that are administered through the Center is close to 1,000 students per year, which is a formidable increase from the Center's inaugural year, when less than 100 students were enrolled in TEC courses. Since the TEC was founded, over 3,500 seats have been filled in courses offered through it. While the vast majority of students enrolled in the courses offered by the TEC are in the College of Engineering, students in the colleges of Business, Fine and Applied Arts, Liberal Arts and Sciences as well as the graduate schools of Law and Business have taken these courses. It is the Center's goal to continually increase enrollment in the current courses, as well as expand the course offerings to continue to meet the demands of the entrepreneurially-minded students at Illinois. Currently the center offers coursework in coordination with the Department of Industrial and Enterprise Systems Engineering. The TEC has also received approval for a "TE" rubric wherein TEC courses will be specifically identified. This will allow the Center to offer more courses throughout the College of Engineering and the Illinois campus. TE courses will also be offered in the proposed campus-wide entrepreneurship minor. In addition to the course enrollments, the Center's V. Dale Cozad Business Plan Competition has had over 140 teams, encompassing nearly 500 students; compete over the past six years. These teams consist of students and faculty throughout the University of Illinois at Urbana-Champaign. Events sponsored and hosted by the Center are well-attended by students, faculty, alumni and other parties interested in furthering entrepreneurship at Illinois.

7. Organization

- 7.1. Describe the proposed unit's organizational structure.

The Technology Entrepreneur Center is a unit in the College of Engineering at the University of Illinois at Urbana-Champaign. The Center has a 50% FTE Director who reports to the dean of engineering. A 100% FTE Assistant Director reports to and works with the Director to develop and implement the Center's programs and oversees all external relations for, and the day-to-day operation of the Center. A 50% FTE Communications Specialist reports to the Assistant Director and develops, writes, and edits TEC public information materials for a variety of audiences; and assists in the coordination of public relations for meetings and other special events. A 50% FTE Web/Multimedia Specialist reports to the Assistant Director and designs and implements the Center's online presence in regard to layout and graphic design. Several faculty (currently, a 75% FTE Visiting Associate Professor; a 50% Adjunct Lecturer; and three 40% Visiting Lecturers; with the goal of involving more full-time, tenured faculty throughout the college) teach the Center's courses and are assisted by

three 50% FTE Graduate Assistants. The Center's faculty and staff are supported by a 100% FTE Administrative Secretary. The Center's operations are overseen by a board of advisors composed of University faculty, alumni and administrators and community members interested in technology entrepreneurship at Illinois.

7.2. Explain how the unit is organized to meet its objectives.

With respect to the educational component of the Center's mission, the Center's faculty administer and instruct the eleven courses that the Center offers to undergraduate and graduate students and professionals. They are supported by the Center's assistants and Administrative Secretary in the day-to-day administration of the courses. TEC faculty also work with the Director and Assistant Director of the Center to develop and implement new courses in the area of technology entrepreneurship. The Center's new rubric will serve to encourage additional faculty throughout the College of Engineering to offer courses through the TEC. The Director and Assistant Director also work closely with the College of Engineering's Office of the Dean to ensure that the educational component of the TEC is fulfilling the college's needs in this area. With respect to the economic development mission of the Center, the Associate Director oversees the implementation and execution of the Center's activities, including the V. Dale Cozad Business Plan Competition and the Illini-TEC Forums. The Assistant Director also works closely with other units on campus and in the community to partner, when applicable, on events and programs. For instance, the Center is working with the University of Illinois Foundation to present at the Silicon Valley Roundtable event that the Foundation hosts in California on a semi-annual basis. In addition, the Center has partnered with the Academy for Entrepreneurial Leadership in the College of Business on events, and has sponsored information sessions for the Office of Technology Management's internship program. The faculty of the Center assist, when applicable, with the implementation of the non-curricular activities as well. The Assistant Director also oversees the external relations of the Center, including the implementation of the Center's marketing materials, which are the Center's voice to the University and other constituencies, and are crucial to the success of the TEC's initiatives.

OUTCOMES

8. Unit Outcomes

8.1. What targets have been set to assess the proposed unit's success in achieving objectives? Among others, specific performance measures might include:

- Expected research and/or public service products:

The Technology Entrepreneur Center will encourage innovation and technology commercialization through curriculum and public engagement. With regard to curriculum, the Center will:

- continue to expand its course offerings in the area of technology commercialization;
- offer TEC courses as part of the campus-wide entrepreneurship minor;
- create an additional certificate program in leadership; and

- grow the enrollment in TEC courses.

The Center will also continue to develop programs and resources for students and faculty in order to increase the number of individuals in these populations involved with technology commercialization at Illinois.

With regard to public engagement, the TEC will continue to administer and expand its non-curricular programs, chiefly the V. Dale Cozad Business Plan Competition, the Lemelson-Illinois Prize and the Illini-TEC Forum. The Center aims to expand the Illini-TEC Forum to additional locations such as Seattle, Silicon Valley, and Hong Kong. In addition, the Center is pursuing an exchange program with business plan competitions in Hong Kong and China to have those winners compete in the Cozad Competition.

In addition, the TEC will continue to build upon its partnerships with departments in the College of Engineering and across campus; entrepreneurial units in other colleges within the University; entrepreneurship-focused student organizations on campus; state-funded agencies in entrepreneurship; and colleges and universities across the nation and around the globe, by:

- offering courses online to colleges and universities in the U.S. as well as in foreign countries;
- co-funding graduate students to produce research in technology entrepreneurship and the education thereof;
- administering the Lemelson-Illinois Prize, which is a campus-wide initiative, with the assistance of faculty from across campus;
- co-sponsoring workshops, symposia, and other events; and
- offering TEC courses as general and technical electives with the appropriate departments.

- Ratio of external to internal funding for the unit:

The Center has been successful in attracting external funding in the form of grants, sponsorships, gifts and corporate partnerships.

- The V. Dale Cozad Business Plan Competition awards are solely supported by area businesses and external units such as Fox Development Corporation and IllinoisVentures. In addition, several area law firms, accounting offices, and other professionals that start-up companies need offer their services to the winners free of charge.
- The Illini-TEC Forums are sponsored by companies and individuals who are interested in speaking at these events.
- National Instruments is providing the Center hardware and software equipment to enhance the SELL laboratory.
- The Center continues to pursue additional grant funding opportunities to expand its program offerings to students and faculty, and to add to and enhance its laboratory equipment.

The personnel expenses as well as those for materials and supplies are funded via internal sources (i.e. the State of Illinois).

- Impact of this unit on national, state, regional, and local area organizations, business, or communities:

The TEC makes an impact on the local business community, the global University alumni community, state organizations, and other communities throughout the US and around the world through its various activities and programs, including:

- the V. Dale Cozad Business Plan Competition;
- the Illini-TEC Forums;
- public lectures;
- the Lemelson-Illinois Prize;
- a website with information and resources for aspiring entrepreneurs;
- the Professional Resource Network; and
- courses available through the Office of Continuing Engineering Education.

The Center strives to increase its impact by continuing to develop its curriculum and public engagement activities with programs such as international exchanges with colleges and universities abroad; and business development workshops for students, faculty, alumni, and State of Illinois residents.

9. Resources

9.1. Indicate the number of students, business, industries, and/or other clients to be served by this unit. Include a description of faculty participation and student involvement in the unit if applicable.

Population	# Impacted/ Served Yearly	Program/Description
Students		
■ enrolled in courses	~1,000	Nearly 1,000 on-campus and remote students enroll in TEC courses each academic year
■ entered Cozad Competition	~70	On average, nearly 70 students enter the V. Dale Cozad Competition each year.
■ projected to enter/be nominated for Lemelson-Illinois Prize	50+	There will be a significant advertising/public relations/direct contact effort to encourage innovative students to apply for the Lemelson-Illinois Prize. The prize is a campus-wide initiative, so 30,000+ undergraduate and graduate students could be exposed to it.
Faculty & Alumni		
■ teaching TEC courses	7	The center currently has seven part-time faculty members teaching its 11 courses.
■ entered Cozad Competition	2-5	Faculty members often participate in teams that enter the V. Dale Cozad Business Plan Competition. In addition, faculty members serve as advisors to Cozad entrants, and mentor students in other aspects of the competition.
■ impacted by TEC programs/activities	50+	The TEC works with faculty members to identify possible entrants for the V. Dale Cozad Business Plan Competition; co-sponsors/provides speakers for technology commercialization events for faculty members and is currently developing a faculty advisory board which will assist the TEC in determining new programs and initiatives on the Urbana campus.

■ non-UIUC faculty	20+	The TEC is working with faculty members at colleges and universities in Hong Kong and Korea to develop faculty exchange programs, and offer TEC courses to their students.
Population	# Impacted/ Served Yearly	Program/Description
Businesses & Community		
■ Professional Resource Network	25+	Alumni and other friends of the University of Illinois provide mentoring for students in courses, the Cozad Competition, or other TEC programs in the areas of legal, finance, intellectual property, marketing, and other fields necessary for entrepreneurs to utilize.
■ Event/Program Sponsors	10+	The TEC enjoys sponsorships of its V. Dale Cozad Business Plan Competition and Illini-TEC Forums by businesses in the Champaign-Urbana and Chicago areas.
■ Illini-TEC Forum Communities	200+	The Illini-TEC Forums have been attended by as many as 40 alumni and friends of the University. There are six forum events per year in Chicago, and have been events in Urbana and St. Louis as well. Total attendance is over 200 to date.

Table II should be completed (even if no new state funding is requested in the budget year) and should reflect all sources of funds, both state and non-state, and reallocations. A narrative budget statement should be provided to explain Table II, to include the following information:

- Explain projected increments in total resource requirements (line 1) in terms of projected staff requirements, equipment and materials, and contractual services.

A narrative is included with the Table II document, on the last page of this request.

- Explain new state resources required (line 6) in the budget year in terms of assumptions and factors used to construct line items 7 through 11. If resource requirements in the budget year include non-recurring costs (e.g., one-time equipment purchases), describe how these resources will be reallocated in subsequent years.

The TEC is not requesting any new state resources at this time.

10. Quality Assurance Processes

10.1. Briefly describe the processes that will yield evidence to demonstrate the quality of the unit. Address the following elements:

- Evidence that the unit supports the university's mission and statewide goals;
- Evidence that the unit's product or outcomes achieve stated objectives;
- Determination of organizational effectiveness;
- Faculty and staff qualifications and reward structures;
- Determination of adequate support staff, equipment, and other resources; and
- Use of results from evaluations to improve the unit's effectiveness.

The Technology Entrepreneur Center will track several quantitative metrics to gauge its success in meeting its goals. Regarding our educational component, the TEC will continue to strengthen and expand its course offerings. In regard to economic development, the TEC will continue to develop and administer programs that will aid in the creation of new ventures, engage alumni, and attract funding from external sources.

In order to gauge success in strengthening and expanding course offerings, TEC will specifically measure:

- enrollment counts in existing courses, and increases therein;
- the number of affiliated faculty throughout the College of Engineering and the Urbana campus;
- the number of permanent courses TEC adds to the curriculum in the College of Engineering;
- the number of TEC courses that are offered as technical electives in the various departments in the College of Engineering (currently no TEC courses are offered as technical electives);
- the number of TEC courses that qualify for credit in programs that may commence in entrepreneurship (e.g. the entrepreneurship minor currently being developed); and
- the number of new courses that are developed and implemented by the TEC.

In order to measure success in its programs and activities that serve the University's economic development goal, the TEC will examine several factors, including:

- the number of faculty- or student-run ventures that are impacted by a TEC program;
- increased alumni engagement in the V. Dale Cozad Business Plan Competition through mentoring, judging, workshop, or other opportunities;
- the representation of the University of Illinois at Urbana-Champaign as a leader in entrepreneurship education in the local, regional, and national media;
- the number of dedicated gifts that are given to the TEC as a result of the Center working closely with the development office in the college;
- any naming opportunities that are taken advantage of (e.g. the Distinguished Entrepreneur Lecture Series, the Innovation Hall of Fame, the TEC itself, and others as they arise); and
- the number of successfully funded grant proposals that the TEC authors, and the monetary amounts that those grants bring to the TEC's initiatives.

In addition to measuring the quantity of the attendees, enrollees, and other students and faculty involved with the TEC, the Center will utilize evaluation forms to determine the quality of its courses and programs. In regard to TEC courses, the Center will utilize the general course evaluations used throughout the Illinois campuses. These evaluations will be analyzed and incorporated where necessary on a yearly basis. In addition, the TEC will create evaluation forms for its Illini-TEC Forums, which will allow attendees to provide feedback regarding the format of the events, the information presented therein, and the logistics surrounding them (e.g. publicity, locations, etc.). The evaluations will be reviewed after each event and incorporated as necessary at subsequent events. Additionally, the TEC currently hosts debrief meetings for the V. Dale Cozad Business Plan Competition with all donors and other campus units

involved in order to ensure that the competition and events surrounding it are as successful as possible, and that the competition is meeting donors' expectations.

The TEC will publish an annual report that will consist of overviews of and updates on its curriculum and programs. The report will be disseminated to all stakeholders within the University of Illinois as well as key individuals outside of the University system. These include sponsors/donors, members of the TEC's Board of Advisors, as well as appropriate government officials and the media.

The TEC will look to its board of advisors to assess its organizational effectiveness and all elements therein: faculty and staff qualifications, their reward structures, and the determination of adequate support staff, equipment, and other resources. The board of advisors will provide the TEC with valuable feedback regarding its programs and activities during regular meetings. The TEC's board of advisors is made up of individuals from across the University of Illinois campuses and throughout the high-tech sector. The board also includes current and former entrepreneurs and other experts in entrepreneurship.

Table II

TOTAL RESOURCE REQUIREMENTS FOR THE NEW UNIT

		Current	Budget	2 nd	3 rd	4th
		Year	Year	Year	Year	Year
1	Total Resource Requirements	380,765	385,765	389,375	393,000	396,700
2	Resources Available from Federal Sources	--	--	--	--	--
3	Resources Available from Other Non-State Sources	20,000	25,000	25,000	25,000	25,000
4	Existing State Resources	360,765	360,765	364,375	368,000	371,700
5	Resources Available through Internal Reallocation	--	--	--	--	--
6	New State Resources Required	--	--	--	--	--
	Breakdown: New State Resources Required	N/A	N/A	N/A	N/A	N/A
7	FTE Staff	N/A	N/A	N/A	N/A	N/A
8	Personal Services	N/A	N/A	N/A	N/A	N/A
9	Equipment and Instructional Needs	N/A	N/A	N/A	N/A	N/A
10	Library	N/A	N/A	N/A	N/A	N/A
11	Other Support Services	N/A	N/A	N/A	N/A	N/A

Line 1

Current Year: the figure represents state funds allocated by the College of Engineering through the Department of Industrial and Enterprise Systems Engineering and the funds that the Center raised in order to administer the V. Dale Cozad Business Plan Competition during the University's 2006 Fiscal Year (FY06). **Budget Year:** the figure represents state funds allocated by the College of Engineering to the Technology Entrepreneur Center and an increase in the non-state funds to be raised on an annual basis in order to administer the V. Dale Cozad Business Plan Competition. If the Center raises more than the \$25,000 projected, those additional funds will be allocated directly to the awards for the Cozad Competition.

Line 2

The Center does not currently have resources available from federal sources. If the Center is awarded federal grants, those funds will be allocated directly to the programs or activities that the grants name; those programs and activities will likely be incremental to programs already offered through the TEC.

Line 3

Current Year: the figure represents funds raised by the Center for the V. Dale Cozad Business Plan Competition administrative costs and cash awards for FY06. **Budget Year:** the figure represents an increase of \$5,000 in the amount that the Center will raise for the V. Dale Cozad Competition. If the Center raises more than a total of \$25,000 for the Competition, the incremental funds will be awarded to the winners of the Cozad Competition. Likewise, if the Center raises funds from additional non-state, non-federal sources, those funds will be allocated to the programs for which they are specifically raised.

Line 4

Current Year: the figure represents state funds allocated by the College of Engineering through the Department of General Engineering for FY06. This figure encompasses salaries for the Center's faculty and staff *except for* the 50% FTE Director, who is supported by the College of Engineering;

and non-personnel expenses such as materials and supplies. **Budget Year:** the budget year figure is the same as the current year figure, since the College of Engineering's allocation to the Technology Entrepreneur Center has remained flat since the Center's inception. **2nd Year, 3rd Year and 4th Year:** the TEC assumes a relatively flat allocation of state resources from year to year, but has included a 1% increase to deliver salary increases.

Line 5

The Center does not have any resources available through internal reallocation.

Lines 6-11

The Center is not requesting new state resources at this time.