



April 13, 2011

TO: Amy Hillman, Executive Dean, W.P Carey School of Business

FR: Chell Roberts, Executive Dean

RE: Certificate Proposal - Knowledge Entrepreneurship & Innovation

During today's discussion between W. P. Carey School of Business and The College of Technology (CTI) and Innovations Executive Deans, we agreed to amend the Knowledge Entrepreneurship and Innovation Certificate proposal to include CTI as a partner in supporting and offering the certificate core. We will also work together in any future development of the certificate and will offer CTI capstone experiences. With these changes incorporated, the College of Technology and Innovation supports the modified proposal.

Thank you for the opportunity to provide this feedback.

C: Mitzi Montoya, Vice Provost & Dean
Robert Mittelstaedt, Dean
Professor Gregory Castle, Chair, Curriculum & Academic Programs Committee
Professor Vaughn Becker, CTI representative to CAPC
Sidnee Peck, Program Manager WPCSB

**Proposal for the Establishment of an Undergraduate Certificate in
Knowledge Entrepreneurship and Innovation**

Request for approval

Updated April 13, 2011

1. Justification for certificate approval

The certificate in Knowledge Entrepreneurship and Innovation is cross disciplinary and innovative. The program incorporates aspects of disciplines such as business, human development, design, sociology, arts, and education. The purpose of this certificate is to foster the skills within students of all disciplines and backgrounds and to prepare students who are interested in pursuing entrepreneurship at any point in the future. Entrepreneurship is not limited to the business sector; entrepreneurs exist within all areas of interest and all industries. This program prepares students for success by allowing them to understand the entrepreneurial mindset, so they will have the option of becoming entrepreneurs or working in an entrepreneurial environment. Each member of the interdisciplinary team of faculty and staff who developed this program incorporated his or her own expertise and perspective into this program. Funding for this certificate and associated courses will come from the Kauffman Foundation grant received by ASU through fiscal year 2010-2011. Beginning fiscal year 2011-2012, support for the core courses will come from the W. P. Carey School of Business and from the College of Technology and Innovation. Support for the capstone courses will come from the individual colleges and schools involved with this certificate. This certificate was developed by the committee appointed by Entrepreneurship at ASU to design and create new university-wide course offerings in entrepreneurship to support the university initiative and culture: University as Entrepreneur.

2. Supporting letters from affiliated academic units

See appendix for letters of support from the following units:

- W. P. Carey School of Business, Department of Management, Chair, Gerry Keim
- College of Technology and Innovation, Executive Dean, Chell Roberts

3. Supporting letters from sponsoring departments

See appendix for letters of support from the following sponsoring units:

- W. P. Carey School of Business, Department of Management, Chair, Gerry Keim

4. Justification of student opportunity

This certificate will provide ASU students with the opportunity to observe, learn, and practice what it takes to be a successful entrepreneur. Through case studies, classroom discussions, guest speakers, and interactive exercises students will not only learn about but also experience entrepreneurship first-hand. This certificate is different from other opportunities offered at ASU in that it is open to students of all majors and is cross-disciplinary, yet has an applied, disciplinary capstone and is coordinated and taught by a diverse group of faculty from various disciplinary colleges.

5. Justification of demand

Entrepreneurship is present in the Phoenix metropolitan region, with 230 entrepreneurs per 100,000 people, according to the Kauffman Index of Entrepreneurial Activity, 2006. According to Dr. Jose Lobo of the L. William Seidman Research Institute, the Phoenix area maintains a comparable breadth, or concentration, of self-employed entrepreneurship compared with other metropolitan areas widely thought of as having an entrepreneurial milieu. However, the two measures of entrepreneurial depth, average income and value added, reveal that Phoenix has a lower quality of entrepreneurial activity than those in other entrepreneurial cities in its comparison set (see appendix for further information).

The goal of this certificate program is to expose students to entrepreneurship early in their academic careers, and allow students to engage with entrepreneurs to see and experience the entrepreneurial mindset. The intent of this certificate is to prepare students with the knowledge and understanding of entrepreneurship to increase their likelihood of success as entrepreneurs in the future. The impact of this program could potentially raise the quality of future entrepreneurial endeavors among program graduates.

6. Departmental and faculty involvement

The sponsoring department is the Management Department of the W. P. Carey School of Business and the certificate will be housed administratively in the Management Department of the W. P. Carey School of Business.

Primary Faculty:

W. P. Carey School of Business

Sidnee Peck, Program Manager and Lecturer, Entrepreneurship Initiatives, Department of Management

Ms. Peck teaches the three core courses for the certificate and works with other entrepreneurial programs on campus including InnovationSpace and Mentorship Meetup.

Herberger Institute for Design and the Arts

Linda Essig, Director of the School of Theater and Film

Ms. Essig teaches arts entrepreneurship and has created the p.a.v.e. program bringing arts students into the entrepreneurial world.

College of Technology and Innovation

Mark Henderson, Professor of Engineering and Director, GlobalResolve

Professor Henderson teaches engineering design and social entrepreneurship and runs GlobalResolve, a program that creates technological business ventures in developing countries.

Supporting Faculty:

W. P. Carey School of Business

Gary Naumann, Director and Lecturer, Spirit of Enterprise Center, Management Department

Anna Goussevskaia, Visiting Associate Professor, Department of Management

**Please note that Ms. Goussevskaia will remain with W. P. Carey beyond the original end date of her visiting status and into the foreseeable future.*

ASU Online

Philip Regier, Executive Vice President and Dean, ASU Online

College of Liberal Arts and Sciences

Guy Cardineau, Retired Research Professor, Biodesign Institute, School of Life Sciences, Sandra Day O'Connor College of Law

Jose Lobo, Associate Research Professor, W. P. Carey School of Business

Herberger Institute for Design and the Arts

Prasad Boradkar, Associate Professor, Department of Industrial Design, School of Architecture and Land Architecture

Hilary Harp, Assistant Professor, School of Art

F. Miguel Valenti, Assistant Director and Lincoln Professor, School of Theatre and Film

Mary Lou Fulton Teachers College

Brian Nelson, Assistant Professor, Division of Psychology in Education

College of Public Programs

Kathleen Andereck, Graduate Program Director and Professor, School of Community Resources and Development

Gordon Shockley, Assistant Professor, School of Community Resources and Development

Ira A. Fulton School of Engineering

Thomas Duening, Former Director, Entrepreneurial Programs Office

7. Procedures and qualifications for admission to the certificate program

Students interested in pursuing the certificate should meet with an academic advisor in the Undergraduate Programs Office of the W. P. Carey School of Business or the academic advising office in the College of Technology and Innovation while enrolled in My Life Venture. Students may formally enroll in the certificate program upon successful completion of My Life Venture with a grade of “B” or better.

8. Residency requirement

All 15 semester hours must be taken in residence at Arizona State University. Transfer credit will not be accepted.

9. Requirements for Certificate and Programs of Study

Required Core (nine credit hours)

- **CORE 1:**
- **MGT 2XX My Life Venture** (3 credit hours, HU designation)
 - *Currently in the beginning of the ACRES process for permanent course status through the management department*
 - Explore all aspects of entrepreneurship including discovery, innovation, and creation. During the semester students will learn about themselves, their decisions, their goals and how entrepreneurship can be part of their lives.

OR

- **TEM 294 My Life Venture**
 - Explore all aspects of entrepreneurship including discovery, innovation, and creation. During the semester students will learn about themselves, their decisions, their goals and how entrepreneurship can be part of their lives.
- **CORE 2:**
- **MGT 3XX Creativity and Innovation** (3 credit hours, prerequisite: MGT 2XX My Life Venture)
 - *Currently in the beginning of the ACRES process for permanent course status through the management department as well as the general education designation approval process*
 - Students will learn the key concepts and techniques of creativity and innovation in a hands-on environment and will be exposed to the processes related to developing creative skills and habits that lead to innovative product and business ideas.

OR

- **TEM 394 Innovation and Creativity Methods** (3 credit hours)

Experiential use of formal and informal tools for creativity including brainstorming, painstorming, TRIZ and other methods of idea generation. Innovation is defined as successful creativity and will include methods for assessing creative ideas for potential market success. Case studies give real-world perspective.
- **CORE 3:**
- **MGT 360 Entrepreneurship and Value Creation** (3 credit hours, prerequisites: MGT 2XX My Life Venture and MGT 3XX Creativity and Innovation)
 - An intensive exploration of entrepreneurship including value creation, opportunity recognition and go-to-market strategy in this hands-on, interactive course.

OR

- **TEM 394 Technological Entrepreneurship** (3 credit hours)
 - Understanding the process of venture creation for a technology product. Includes practice in all steps of creating a startup. The semester project gives practical experience, ending with a business plan and venture pitch.

Capstone Experience (at least six credit hours)

- **It is the responsibility of the student to check the prerequisites required by courses in their discipline**
- Capstone courses will be designated and approved by individual disciplinary colleges
- Capstone courses will consist of existing courses or new courses created by departments
- Faculty and staff associated with the certificate will assist other faculty who are interested in expanding courses offerings in entrepreneurship across the disciplines
- We will begin offering capstone experiences for students in the following disciplinary colleges:

Discipline:

Business
Engineering
Herberger Institute for Design and the Arts
Public Programs

Faculty Liaison:

Gerry Keim
Dan O'Neill
Linda Essig
Gordon Shockley

Following are the launch dates and course number transitions for each of the new core courses:

WPC 294 My Life Venture (omnibus) – launched Fall 2008 = MGT 294 Fall 2011 = MGT 2XX Fall 2012
WPC 394 Creativity and Innovation (omnibus) – launched Fall 2009 = MGT 394 Fall 2011 = MGT 3XX Fall 2012
MGT 394 Introduction to Entrepreneurship (omnibus) – Launched Spring 2009 = MGT 360 Fall 2011 (already approved for permanent status)

An example of courses currently offered which may potentially fulfill capstone experience:

Business

MGT 440 – Entrepreneurship
MGT 445 – Business Plan Development

Engineering

FSE 394 – Creating a Technology Venture
FSE 494 – Operating a Tech Venture

Fine Arts

THP 450 – Theatre Organization and Management
THP 494 – Arts Entrepreneurship

Public Programs

NLM 410 – Social Entrepreneurship
NLM 430 – Managing Nonprofit Organizations

CLAS - Science

BIO 394 / PHI 320 – Bioethics
MBB 490 – The Business of Biotechnology

College of Technology and Innovation

Project Management and Leadership:

TEM 494 (3) Strategic Planning and Management
TEM 480 (3) Leadership and Teambuilding

Process Innovation

TMC 331 (3) Quality Assurance
TEM 494 (3) Lean Process Design

Social Entrepreneurship (Choose 2 of the 3):

TEM 394 (3) Human-Centered Design
TEM 494 (3) Global Impact Entrepreneurship
TEM 494 (3) Community Venture Startup (Includes Travel to the Developing World)

New Product Development:

TEM 394 (3) Human-Centered Design
TEM 430 (3) Legal & Ethical Issues in Technology

Alternative Energy Entrepreneurship

TEM 394 (3) Energy Usage and Policy (new course)
MET 435 (3) Alternative Energy Systems

Sample Programs of Study

Below are sample programs of study, to show what this certificate may look like for students in various disciplines.

MAJOR: BUSINESS

Fall 2009
WPC 394 – Creativity and Innovation

Fall 2010
MGT 440 – Small Business and Entrepreneurship

Spring 2009
WPC 294 – My Life Venture

Spring 2010
MGT 360 – Intro to Entrepreneurship

Spring 2011
MGT 445 – Business Plan Development

MAJOR: ENGINEERING

Fall 2009
WPC 394 – Creativity and Innovation

Fall 2010
FSE 394 – Creating a Technology Venture

Spring 2009
WPC 294 – My Life Venture

Spring 2010
MGT 360 – Intro to Entrepreneurship

Spring 2011
FSE 494 – Operating a Tech Venture

MAJOR: FINE ARTS

Fall 2009
WPC 394 – Creativity and Innovation

Fall 2010
THP 450 – Theatre Organization and Management

Spring 2009
WPC 294 – My Life Venture

Spring 2010
MGT 360 – Intro to Entrepreneurship

Spring 2011
THP 494 – Arts Entrepreneurship

MAJOR: PUBLIC PROGRAMS

Fall 2009
WPC 394 – Creativity and Innovation

Fall 2010
NLM 410 – Social Entrepreneurship

Spring 2009
WPC 294 – My Life Venture

Spring 2010
MGT 360 – Intro to Entrepreneurship

Spring 2011
NLM 430 – Managing Nonprofit Organizations

MAJOR: CLAS – SCIENCES

Fall 2009
WPC 394 – Creativity and Innovation

Fall 2010
BIO 394 / PHI 320 – Bioethics

Spring 2009
WPC 294 – My Life Venture

Spring 2010
MGT 360 – Intro to Entrepreneurship

Spring 2011
MBB 490 – The Business of Biotechnology

10. Advising Procedures

The Management Department and Undergraduate Program Office, in conjunction with the Program Manager of Entrepreneurship Initiatives for the W. P. Carey School of Business, will be responsible for advising and enrollment in the

certificate. Advisors will work with departmental liaisons (listed above) to sign off on capstone experiences for the certificate.

11. Administration of the New Certificate

Currently, the following enrollment restrictions exist for both the fall and spring semesters, however the program will be scaled based on demand as necessary:

	Fall	Spring	Summer
My Life Venture	200	200	
Creativity and Innovation	70	70	
Introduction to Entrepreneurship	125	125	50

If students pursue the certificate in lock-step, the maximum certificates issued per year would be approximately 140. No new courses are required at this time.

The certificate program will be governed by the Department of Management and the Program Manager of Entrepreneurship Initiatives.

The proposed certificate has been and will be supported by the Kauffman grant through fiscal year 2010-2011. During the fiscal year 2011-2012 and going forward, resources, equipment, space and personnel services for the core courses will be provided by the Department of Management at the W. P. Carey School of Business and the College of Technology and Innovation. Support for the capstone courses will be provided by the individual colleges and schools involved. Student recruitment will also be funded and staffed by Kauffman funding through June 2011 and by the Department of Management and College of Technology and Innovation going forward. The Management Department and Undergraduate Program Office, in conjunction with the Program Manager of Entrepreneurship Initiatives for the W. P. Carey School of Business and advising offices at each student's college, will be responsible for checking student transcripts and notifying the registrar's Graduation Office with appropriate certificate title.