PROPOSAL TO ESTABLISH A NEW UNDERGRADUATE CERTIFICATE

The completed and signed proposal should be submitted by the Dean's Office to: curriculumplanning@asu.edu.

Before academic units can advertise undergraduate certificates or include them in their offerings as described in the university catalogs, they must be recommended for approval by the Senate Curriculum and Academic Programs Committee and the University Senate, and be approved by the Office of the University Provost.

Definition and minimum requirements:

These are the minimum requirements for approval. Individual undergraduate certificates may have additional requirements.

An undergraduate certificate is a programmatic or linked series of courses from a single field or one that crosses disciplinary boundaries and may be free-standing or affiliated with a degree program. The certificate provides a structured and focused set of courses that can be used to enhance a student's baccalaureate experience or professional development.

An undergraduate certificate program:
- ☐ Requires a minimum of 15 semester hours of which at least 12 semester hours must be upper division
- ☐ Requires a minimum grade of "C" or better for all upper division courses
- ☐ Consists of courses that must directly relate in whole or large part to the purpose of the certificate. Example: Geographic area certificates must include only courses specific to the title of the certificate, other than a non-English language
- ☐ Is cross disciplinary; or,
    - ☐ Certified by a professional or accredited organization/governmental agency; or,
    - ☐ Clearly leads to advanced specialization in a field; or,
    - ☐ Is granted to a program that does not currently have a major

College/School/Institute:	W. P. Carey School of Business
Department/Division/School:	Department of Information Systems
Proposed Certificate Name:	Digital Business Innovation
Requested effective Date:	2018-19
Delivery method:	Both, On-Campus and ASU Online

Note: Once students elect a campus or On-line option, students will not be able to move back and forth between the on-campus and the ASU Online options. Approval from the Office of the Provost and Philip Regier (Executive Vice Provost and Dean) is required to offer programs through ASU Online.

Campus/Locations:
Indicate all locations where this program will be offered.

☐ Downtown Phoenix   ☐ Polytechnic   ☒ Tempe   ☐ Thunderbird   ☐ West   Other: ASU Online

Proposal Contact			
Name:	Raghu Santanam	**Title:**	Chair & Professor
Phone number:	480-965-8977	**Email:**	raghu.santanam@asu.edu

DEAN APPROVAL(S)

This proposal has been approved by all necessary unit and College/School levels of review. I recommend implementation of the proposed organizational change.

College/School/Division Dean name: Amy Hillman

Amy Hillman

Signature _____   **Date:** 8/29/2017

College/School/Division Dean name:
(if more than one college involved)

Signature _____   **Date:** __ / __ /20 __

Note: an electronic signature, an email from the dean or dean's designee, or a PDF of the signed signature page is acceptable.

**PROPOSAL TO ESTABLISH A NEW
UNDERGRADUATE CERTIFICATE**

1.	**Overview**

A. Provide a brief description of the new certificate.

The transformation of the business landscape caused by digital innovations in recent years has been phenomenal. It is increasingly important for all business professionals to understand the nature of digital technologies and platforms. Broad technology skills, familiarity with managing technology projects, and specifying business requirements for technology platforms are essential skills that are valued by all corporations.

This certificate will provide students with a broad overview of modern-day digital information systems, expose them to studying and transforming business processes, as well as give exposure to modern tools for maintaining digital presence and developing analytical insights.

With this certificate, students will:
- Understand how businesses can use digital innovations to transform their operations and the nature of competition.
- Explore how business processes can leverage new and emerging technologies.
- Learn how to assess business problems and opportunities presented by digital innovations, and analyze solution options to recommend those which best meet business needs.
- Gain practice with tools and strategies for assessing business and develop essential skills needed for effective process management, project and agile project management, and decision-making through data analysis.

B. This proposed certificate (check one):

☒ Is cross disciplinary; or

☐ Is certified by a professional or accredited organization/governmental agency; or,

☐ Clearly leads to advanced specialization in a field; or,

☐ Is granted to a program that does not currently have a major.

C. Why should this be a certificate rather than a concentration or a minor?

Successfully utilizing digital innovations to transform business processes requires not only understanding the nature of digital innovations but also detailed expertise in specific business disciplines. The proposed certificate is intended to supplement the expertise students acquire in a specific discipline with in-depth knowledge of how IT innovations can transform core business processes and focus on the hands-on use of tools and techniques for business analysis. Since this expertise is complementary to other disciplines and not solely a subset of the Computer Information Systems/Business Data Analytics degrees, this set of classes is best suited to be a certificate.

D. Affiliation

If the certificate program is affiliated with a degree program, include a brief statement of how it will complement the program. If it is not affiliated with a degree program, incorporate a statement as to how it will provide an opportunity for a student to gain knowledge or skills not already available at ASU.

This new certificate will complement the CIS/BDA degrees in the Information Systems department. The CIS/BDA degrees currently focus on general information systems and analytics skills. This certificate will allow the additional study of businesses with a focus on digital innovation. Most of the classes in the certificate are not part of the two degree programs.

In addition, the new certificate will be complementary to other degree programs across campus. As students move into industry upon graduation, they need to understand how new developments in IT may affect existing practices and processes. The skills learned through the certificate can be applied to any discipline to help improve processes and organizational changes.

E. Demand

Explain the need for the new certificate (e.g., market demand, interdisciplinary considerations).

IT innovations occur continuously, and the pace of change is increasing. Some new technologies hold the potential for radically transforming business practice, others less so. Students who pursue this certificate will be able to understand how to determine which new developments have the potential to change existing practices and to recommend how best to meet business needs. Non-business students will learn key business terms and will be able to access problems and opportunities within their own disciplines to move organizations forward.

F. Projected enrollment
   What are enrollment projections for the first three years?

	1st Year	**2nd Year** (Yr. 1 continuing + new entering)	**3rd Year** (Yr. 1 & 2 continuing + new entering)
Number of Students (Headcount)	100	250	500

2. Support and Impact

A. Faculty governance
   Provide a supporting letter from the chair of the academic unit verifying that the proposed certificate has received faculty approval through appropriate governance procedures in the unit and that the unit has the resources to support the certificate as presented in the proposal, without impacting core program resources.

   Letter of Verification Attached

B. Other related programs
   Identify other related ASU programs and outline how the new certificate will complement these existing ASU programs. (If applicable, statements of support from potentially-affected academic unit administrators need to be included with this proposal submission.)

C. Letter(s) of support
   Provide a supporting letter from each college/school dean from which individual courses are taken.

3. Academic Curriculum and Requirements

A. Knowledge, competencies, and skills

List the knowledge, competencies, and skills (learning outcomes) students should have when they complete this proposed certificate. Examples of program learning outcomes can be found at (http://www.asu.edu/oue/assessment.html).

The transformation of the business landscape caused by digital innovations in recent years has been phenomenal. It is increasingly important for all business professionals to understand the nature of digital technologies and platforms. Thus the knowledge, competencies, and skills (learning outcomes) of the Digital Business Innovation certificate include:

- Critical Thinking:
    - Draws conclusions consistent with facts and analysis.
    - Identifies information relative to problem.
- Communication:
    - Provides an appropriate, clear, and logical organizing structure.
    - Uses acceptable style and grammar.
- Demonstrates knowledge of discipline specific concepts.
    - Identify and classify risks exposures of various businesses (e.g., market risk; credit risk; operational risk) as well as existing and new techniques for managing such risks (e.g., derivatives, insurance products, diversification, and self-insurance).
    - Measure and model various risk exposures.
    - Describe and apply the tenets of enterprise risk management (ERM) and evaluate the use and efficacy of ERM practices and other risk management techniques employed by different firms and industries.

Describe the plan and methods to assess whether students have achieved the knowledge, competencies and skills identified in the Learning Outcomes. (You can find examples of assessment methods at https://uoeee.asu.edu/assessment.)

Students pursuing the Digital Business Innovation certificate will develop knowledge, competency, and skill in the five areas noted above: critical thinking, communication, discipline-specific knowledge, ethics and global management. To ensure that students are achieving these learning outcomes described in (A) above, an assessment will be performed yearly using direct and indirect measures as described below:

- Direct measure: discipline-specific knowledge, critical thinking, communication, ethics and global management will be measured directly from an applied case study problem administered in CIS 311 – Business Project Management. This course is designed largely as a project and case-based course, thus it facilitates the development of communication and critical thinking skills in addition to discipline-specific knowledge. The case will be graded using a rubric aligned with the learning outcomes developed in (A). All students in the course will be sampled, with students pursuing the certificate asked to self-identify for the purposes of assessment. CIS 311 Business Project Management is a required course for the certificate. Thus, the format of the course (case and project based) and the likely timing of the course in the program sequence makes it an appropriate course to sample for assessment.

- Indirect measure: students pursuing the certificate and ready to graduate will also complete a survey through Qualtrics in order to garner additional information regarding achievement of learning outcomes. Survey questions will be designed to assess how they perceive their achievement of the established discipline-specific knowledge, critical thinking, and communication outcomes.

At the outcome of this certificate, students will be able to: 1) evaluate new IT developments to determine which ones have the potential for transforming existing practice and 2) help organizations identify ways to use digital innovations to improve profitability and performance.

B. Admissions criteria

List the admissions criteria for the proposed certificate. If they are identical to the admission criteria for the existing major and degree program under which this certificate will be established, please note that here.

There are no admission requirements for the certificate.

C. Program Map

Attach a copy of the "proposed" map for this certificate program. Instructions on how to create a "proposed certificate map" in BAMM can be found in the Build a Major Map Training Guide.

D. Curricular structure

Provide the curricular structure for this certificate. Be specific in listing required courses and specify the total minimum number of hours required for the certificate.

Required certificate courses

Prefix	Number	Title	Is this a new Course?	Credit Hours
CIS	105	Computer Applications & Information Technology	No	3
CIS	235	Introduction to Information Systems	No	3
CIS	300	Web Design and Development	No	3
CIS	308	Advanced Excel in Business	No	3
CIS	311	Business Project Management	No	3
CIS	312	Business Mobile Commerce and Monetization	Yes	3

Section sub-total: **18**

Elective certificate courses

Prefix	Number	Title	Is this a new Course?	Credit Hours

Section sub-total:

Other certificate requirements

E.g. – Capstone experience, internship, clinical requirements, field studies, foreign language skills as applicable

Credit Hours

Section sub-total:

Total minimum credit hours required for certificate   **18**

E.   Minimum residency requirement
How many hours of the certificate must be ASU credit?
12

F. New Courses
Provide a brief course description for each new course.
CIS 312 – Business Mobile Commerce and Monetization is designed to teach students the entire Mobile commerce process starting with recognizing what it is, what it does, how to build it and the business value of it. Students will become familiarized with Software Development platforms and eco-systems, strategies for development and deployment, and Monetization Strategies.

Note: All new required courses should be submitted in Curriculum Changemaker and ready for Provost's Office approval before this certificate is put on Curriculum and Academic Programs Committee (CAPC) agenda.

4. Administration and Resources

A. Administration

How will the proposed certificate be administered (including admissions, student advisement, retention, etc.)?

The digital business innovation certificate will be administered by the W. P. Carey School of Business and the Department of Information Systems. Students will be advised by Department of Information Systems faculty. Requirements will be verified in a DARS audit.

B. Resources

What are the resource implications for the proposed certificate, including any projected budget needs? Will new books, library holdings, equipment, laboratory space and/or personnel be required now or in the future? If multiple units/programs will collaborate in offering this certificate please discuss the resource contribution of each participating program. Letters of support must be included from all academic units that will commit resources to this certificate.

No additional funding or resources are required to support the certificate.

C. Primary Faculty

List the primary faculty participants regarding this proposed certificate. For interdisciplinary certificates, please include the relevant names of faculty members from across the University.

Name	Title	Area(s) of Specialization as they relate to proposed certificate
Kathleen Moser	Clinical Assistant Professor	Database & Project Management
Matthew Sopha	Clinical Assistant Professor	Introduction to IS
Linda Prince	Lecturer	Advanced Excel
Matthew McCarthy	Principal Lecturer	Computer Appls & Info Technologies & Mobile Commerce & Monetization
Jonathan Davis	Instructional Professional	Web Design and Development

5. Additional Materials

A. Complete and attach the Appendix document.

B. Provide one or more model programs of study (if appropriate).

C. Attach other information that will be useful to the review committees and the Office of the Provost.

APPENDIX
OPERATIONAL INFORMATION FOR UNDERGRADUATE CERTIFICATES

(This information is used to populate the Degree Search/catalog website.

Please consider the student audience in creating your text.)

A. **Proposed Certificate Name:** Digital Business Innovation

Marketing Description
Optional. 50 words maximum. The marketing description should not repeat content found in the program description.

B. **Program Description (150 words maximum)**
The transformation of the business landscape in recent years, caused by digital innovations, has been phenomenal. It is increasingly important for all business professionals to understand the nature of digital technologies and platforms. Broad technology skills, familiarity with managing technology projects, and specifying business requirements for technology platforms are essential skills that are valued by all corporations.

This certificate in digital business innovation provides students with a broad overview of modern-day digital information systems, exposes them to studying and transforming business processes, and gives exposure to modern tools for maintaining digital presence and developing analytical insights.

C. **Contact and Support Information**
Building Name, code and room number: *(Search ASU map)*   BA 301P
Program office telephone number: (*i.e. 480/965-2100*)   480/965-3252
Program Email Address: wpcareyis@asu.edu
Program Website Address: https://wpcarey.asu.edu/information-systems-degrees

D. **Program Requirements:**
Remember to attach a copy of the "proposed" map for this certificate program. Instructions on how to create a "proposed certificate map" in BAMM can be found in the Build a Major Map Training Guide.

The digital business innovation certificate requires 18 credit hours to complete and is available to all majors. There are no pre-requisite courses. CIS 105 is a prerequisite to the other four courses. To earn the certificate, students must complete all courses with a grade of "C" (2.00 on a scale of 4.00) or higher.

E. **Enrollment Requirements**
If applicable, list any special enrollment requirements applicable to this certificate in addition to the standard text. Enrollment requirements for all undergraduate certificates include the following text:

A student pursuing an undergraduate certificate must be enrolled as a degree-seeking student at ASU. Undergraduate certificates are not awarded prior to the award of an undergraduate degree. A student already holding an undergraduate degree may pursue an undergraduate certificate as a nondegree-seeking graduate student.

None

F. **Delivery/Campus Information Delivery:**   Both, On-Campus and ASU Online

Note: Once students elect a campus or On-line option, students will not be able to move back and forth between the on-campus and the ASU Online options. Approval from the Office of the Provost and Philip Regier (Executive Vice Provost and Dean) is required to offer programs through ASU Online.

G. **Campus/Locations:**
Indicate **all** locations where this program will be offered.
☐ Downtown Phoenix   ☐ Polytechnic   ☒ Tempe   ☐ Thunderbird   ☐ West   Other: ASU Online

UQKTAVA

The digital innovation certificate requires 18 credit hours to complete and is available to all majors. To earn the certificate, students must complete all courses with a grade of "C" (2.00 on a scale of 4.00) or higher. No more than six credit hours may be shared between the certificate and other degree programs, minors, and/or other certificates.

Required Courses -- 18 credit hours

CIS 105: Computer Applications and Information Technology (CS) (3)
CIS 235: Introduction to Information Systems (3)
CIS 300: Web Design and Development (3)
CIS 308: Advanced Excel in Business (3)
CIS 311: Business Project Management (3)
CIS 312: Business Mobile Commerce and Monetization (3)

Depending on a student's undergraduate program of study, prerequisite courses may be needed in order to complete the requirements of this certificate.

To: Curriculum ChangeMaker

From: Raghu Santanam, Chair and Professor

Date: January 30, 2017

Regarding: Memorandum of Verification

This is to verify that the Proposal for a certificate in Digital Business Innovation has been reviewed and approved by the Department of Information System's Faculty on January 27, 2017 in accordance with the *Bylaws of the Department of Information Systems* and the associated *IS Department Committees and Charges* document (both last revised 4/17/2015). The new certificate will not require any additional faculty resources to deliver the program to students.

From:	Patricia Friedrich
Sent:	Friday, July 21, 2017 10:59 AM
To:	Angelina Saric
Cc:	Raghu Santanam; Lara Ferry
Subject:	Fwd: Impact letter for Information Systems - New Undergraduate Certificate in Digital Innovation

Dear Angelina:

Lara Ferry forwarded your request for an impact statement to me, and I am writing to report that I have consulted with our three schools and all of them stated they foresee no impact on our programs or offerings. We prefer to handle these requests from the Dean's office, so I would be grateful if they could be sent to me in the future. I will always make sure to consult with the necessary schools.

My very best,

Patricia

Patricia Friedrich, PhD
Associate Dean for Academic Programs,
New College of Interdisciplinary Arts and Sciences
Professor of Linguistics/Rhetoric and Composition,
School of Humanities, Arts, and Cultural Studies
Arizona State University P. O. Box 37100
4701 W. Thunderbird Rd. Mail Code 3051
Phoenix, AZ, USA 85069-7100
voice 602 543-6046

From: David Guston
Sent: Tuesday, January 09, 2018 1:17 PM
To: Kay Faris <KAY.FARIS@asu.edu>
Subject: Re: Impact letter for Information Systems - New Undergraduate Certificate in Digital Innovation

Kay

Apologies for delay. I don't see any problems with the proposed UG certificate in digital innovation and look forward to any synergies that we might be able to create.

Best,

Dave

David H. Guston
Foundation Professor
Director, School for the Future of Innovation in Society (https://sfis.asu.edu)

Co-director, Consortium for Science, Policy & Outcomes
Director, Virtual Institute for Responsible Innovation

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