Graduate Certificate Proposal Form

Save blank form to your desktop, then fill in fields. Send electronic version to barnesk@usf.edu. Submit original, signed copy to Graduate Certificates, LIB608. (College of Education must first submit to Lora Crider, EDU 105).

Name of Graduate Certificate: Data Science for Public Administration   Date: 1/19/2018

College: Arts and Sciences   Department: School of Public Affairs

CONTACTS

Position	Name	Phone	E-mail Address	Location	Mail Point
Grad Cert Director	Stephen Aikins	x4-0114	saikins@usf.edu	SOC011	SOC107
Advisor	Stephen Aikins	x4-0114	saikins@usf.edu	SOC011	SOC107
Admin. Asst.	Annie Valdez	x4-7861	annievaldez@usf.edu	SOC007	SOC107

ACADEMIC REQUIREMENTS

Total Credit Hours Required: 15

Implementation Date: Fall 2018

Expected Enrollment: 10

Time Limit for Completion: Five years

Other programs this graduate certificate links to: Master of Public Administration

CURRICULUM

List graduate certificate courses. For new courses, attach a copy of the online graduate course proposal form, the graduate curriculum approval form, and the course syllabus.

Course #	Title/Credits	Faculty Member	Delivery Method	Required or Elective	New or Existing	Part of Other grad Cert?
PAD 6703	Quantitative Aids for Public Managers	S. Neely	Hybrid	Required	Existing	No
URP 6930	GIS for Planners	Multiple	Online	Required	Existing	No
LIS 5802	Information Analytics	L. Hagen	Online	Elective.	Existing	No
MAN 6347	People Analytics	De Vreede	Hybrid	Elective	Existing	No
LIS 5937	Visualization of Big Data	A. Friedman	Online	Elective	Exisitng	No
QMB 6302	Data Analytics for Business	W. Jank	Online	Elective	Existing	No
ISM 6136	Statistical Data Mining	W. Jank	Online	Elective	Existing	No
SYA 7357	Introduction to Social Network Analysis	J. Skvoretz	Classrm	Elective	Existing	No

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CATALOG ENTRY

Course location/delivery: Mixed Delivery (USF Tampa Campus and/or online)

Brief description:

This 15-credit graduate certificate addresses growing demand for more quantitatively-based, data-informed policy and program analysis and decision-making in the public and nonprofit sectors, as well as the concomitant demand for public and non-profit sector professionals with the advanced data analytics competencies to conduct them. With this proposed certificate program, the School of Public Affairs seeks to attract current and prospective public and non-profit sector professionals, as well as degree-seeking MPA students, who wish to enhance their quantitative competence in data science and decision analytics in order to meet those demands. The proposed curriculum will educate leaders and staff professionals in public agencies and nonprofit organizations in the basic data sciences, and thus enable them to plan and conduct sophisticated data analysis, draw inferences and insights, generate and assess solutions, and communicate results to diverse stakeholders, all in support of public policies and programs at all levels of government, as well as in non-profit and non-governmental organizations.

The required courses address the fundamentals of data analysis in the public sector (PAD 6703, Quantitative Aids for Public Managers; and GIS 5089/URP 6930, Geographic Information Systems for Planners, and the elective coursework allows students to learn to apply more advanced quantitative and analytic tools and methods from different professional and disciplinary perspectives. The certificate program will likely be in high demand among current public and non-profit sector employees and those who wish to expand their marketability for advancement in or acquire future jobs in these areas, including students enrolled in our Master of Public Administration and Master of Urban and Regional Planning programs. Admission to the certificate program will require the approval the MPA Program Director.

The proposed curriculum requires 15-credit hours of coursework, with two required and three elective courses (the latter selected from a 'menu' of six courses offered by the College of Arts and Sciences and the Muma College of Business). The foundational course for the certificate program is Quantitative Aids for Public Managers (PAD 6703), an existing course offered by the School of Public Affairs and recently approved for reinstitution in our core curriculum by the Graduate Council. Certificate students will also be required to complete an introductory course in Geographic Information Systems (GIS), currently offered by the Department of Geosciences as GIS for Planners (GIS 5089, cross-listed as URP 6930). Students choose the remaining 9 credits, in consultation with the MPA Program director, from a list of approved elective course (outlined below). The elective courses develop competencies in more specialized analytic techniques such as data mining, decision analytics, data visualization, and social network analysis. Collectively, the skills acquired through this course of study will prepare students to make substantive contributions to management, governance, and policymaking in the public and nonprofit sectors.

Credit toward graduate degree: Up to 12 hours of certificate course credits may be applied to a graduate degree with departmental approval.

Transfer Credit: Non-degree seeking students and transfer students may apply one course to a graduate certificate with department approval.

Standardized tests: None required

Admission requirements:

Degree: Bachelors   GPA: 3.5

Prerequisite courses (list specific courses or a certain number of credits in a discipline):

Completion of PAD 6703 (Quantitative Aids for Public Managers) and Instructors Approval

Application Process:

☒ Official Transcripts   ☒ Resume   ☒ Letter of Interest   ☒ Other: Approval of the MPA Program Director

Registration Process:

- First, consult with the certificate program advisor and obtain an electronic course permit if necessary. Then go to www.bit.ly/USF-oasis, the link to OASIS, USF's on-line registration system.

- Follow directions given online.

- To access online course materials, students must have the USF NetID (e-mail account).
  Please visit: www.bit.ly/USF-ID to obtain the NetID.

New students, including those studying online, may obtain the USFCard.
Please visit: www.bit.ly/USF-card to obtain the USFCard.

Tuition and Fees: (Text for this area will be inserted based on the type of certificate selected from the drop-down list below.)

Financial Aid: Non-degree seeking students are not eligible for financial aid. Please contact private lenders for information on the types of student loans available.

JUSTIFICATION

Purpose: Describe the nature of the graduate certificate program, its primary goals, why it is needed and how it is unique.

Over the past two decades, the proliferation of government-collected "big data" and advanced analytic techniques have revolutionized policy and program analysis in the public and non-profit sectors (for example, see the final report of the Congressional Commission on Evidence-Based Policymaking, released on September 7, 2017). Governments at all levels, as well as the nonprofit/non-governmental organizations that support them, are increasingly relying on public sector and non-profit professionals who can understand and apply the data sciences to public policy- and decision-making.

The 15-credit graduate certificate proposed in this application seeks to prepare those professionals. The proposed curriculum will provide students with a foundation in basic data analysis skills, including research methods, descriptive and inferential statistics, and applied geographic information systems. Students may use the remaining elective courses to tailor the certificate to their unique interests and professional needs. Other analytic competencies that students will be able to acquire include data mining, social network analysis, social media analysis, and data visualization. Evidence shows these are increasingly critical skills in the public and nonprofit sectors, and in great demand by employers in those sectors

Unlike data science programs in Computer Science or Business, ours will uniquely focus on the application of these methods to public/nonprofit organizations and professionals, and will be rooted in the principles of good governance and ethics that influence data-driven decision making in the public workspace.

Benefits: Describe how this graduate certificate will benefit students, the department, the university and the community.

This certificate will equip current and future professionals to make unique and substantive contributions to policy- and decision-making in the public/non-profit sectors, and in so doing, compete in the 21st century job market for individuals with those competencies. Graduates will develop the requisite skills to analyze data, derive insights, draw conclusions, and effectively communicate the results of sophisticated data analyses to both constituents and decision-makers at all levels of government, as well as in nonprofit/non-governmental organizations.

From an institutional perspective, we believe that a certificate program focused on the application of the data sciences to the public/nonprofit sectors is unprecedented, and as such, will help to raise the stature and profile of both USF and the School of Public Affairs at the local, state, and national levels. Adding this certificate to our graduate offerings will attract public sector professionals from the state, the US, and eventually internationally, and will also serve as a valuable differentiator for the School of Public Affairs.
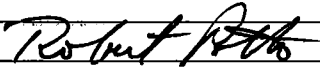
Marketing/Outreach: Describe your target market.

The Certificate will be marketed to undergraduates, current/prospective MPA students (including international students), and current professionals in the public and non-profit sectors who wish to enhance their skill sets or advance their careers in the public service. We are working with Innovative Education to develop a marketing strategy that will disseminate program information to current/prospective MPA students, and we will also leverage our faculty's extensive public sector network (to include contacts through the Florida Institute of Government) to reach public/non-profit sector professionals in Federal, state, and local governments.

Competition: List other schools where a similar program is offered and how the courses are delivered, i.e. traditional, partially online, fully online, alternative calendar, etc.

University	Location	Name of Grad Cert	Delivery Method
Stanford University	Palo Alto, CA	GC in Data Science & Op	Classroom
Johns Hopkins University	Baltimore, MD	GC in Government Analy	Classroom
New York University	New York, NY	GC in Urban Science & Ir	Classroom
Arizona State University	Tempe, AZ	GC in Policy Informatics	Classroom

Funding: On a separate sheet, detail costs associated with the start-up and operation of the proposed graduate certificate (faculty, staff, equipment, space etc.). Attach a letter of resource support from your department chair/college dean to the signed proposal.

Position	Name	Signature	Date
Department Chair	Ronald Sanders		April 2, 2018
College Committee Chair			
College Assoc. Dean	Robert Potter	_Robert Potter_	4/13/18
Graduate Council Chair			
Graduate Certificates	Kathleen H. Barnes		

Concurrences

From the School of Information, College of Arts and Sciences

From: Andrews, James
Sent: Monday, March 12, 2018 12:19 PM
To: Sanders, Ronald <rpsanders@usf.edu>
Cc: Borum, Randy <wborum@usf.edu>
Subject: Concurrence

Dear Ron,

I am writing to express our full support and concurrence for the proposed graduate certificate in Data Science for Public Administration. This is an exciting new curricular option for students seeking to build competencies in data science and analytics to enhance their professional master's program in public admin. As we have discussed with you, we will ensure that our courses in this program (i.e. Information Analytics and Visualization of Big Data) are available to students seeking this certificate, and will work with you and your faculty on any other curricular issues related to the School of Information as needed.

If I can be of any assistance in moving this forward, please don't hesitate to ask.

Sincerely,
Jim

James E. Andrews, Ph.D.

Director, School of Information (iSchool)

Associate Professor of Information Science

University of South Florida

813.974.2108

https://works.bepress.com/james_andrews/

From the Department of Sociology, College of Arts and Sciences

From: Skvoretz, John
Sent: Monday, March 12, 2018 12:20 PM
To: Sanders, Ronald <rpsanders@usf.edu>
Cc: Cavendish, James <jcavendi@usf.edu>
Subject: re participation in SPA certificate programs

Dear Director Sanders,

This note confirms my commitment to your proposed certificate programs that will have students take my graduate course SYA 7357 Introduction to Social Network Analysis. This course usually attracts students from across the university (public health, engineering, business, and within the college anthropology and psychology) so having SPA students would be quite in order. I have copied my department chair.

John Skvoretz
Distinguished Professor
Department of Sociology
(on behalf of the Department Chair)

From the Department of In Information Systems and Decision Sciences, Muma College of Business

From: Agrawal, Manish
Sent: Wednesday, March 14, 2018 5:57 PM
To: Sanders, Ronald <rpsanders@usf.edu>
Cc: Potter, Robert <potter@usf.edu>
Subject: RE: HELP: Data Science for Public Administrators

Sorry, didn't realize you had attached the update. I made a slight change in the attached, the text for ISM 6136 still said statistical data mining, and I have changed it to data mining.

Looks good otherwise. Hope you have good luck with the process. Sorry for the delay at my end. Anything else you need from me?

Thanks

Manish Agrawal
Professor and Chair
Department of Information Systems and Decision Sciences
Muma College of Business