Establish a Doctorate of Business Administration (PCC 20043)

PRESENTED BY	**Valérie Orlando, Chair, Senate Programs, Curricula, and Courses Committee**
REVIEW DATES	**SEC – August 26, 2021 | SENATE – September 8, 2021**
VOTING METHOD	**In a single vote**
RELEVANT POLICY/DOCUMENT	**N/A**
NECESSARY APPROVALS	**Senate, President, University System of Maryland Board of Regents, and Maryland Higher Education Commission**

ISSUE

The Robert H. Smith School of Business proposes to establish a Doctorate of Business Administration (DBA). The DBA is a practitioner-oriented doctoral-level degree designed for senior executives and researchers in industry and government. The program is different from the Smith School's existing Ph.D. in Business and Management, which trains students to create new theory and methodologies in areas of business and management research. The DBA instead will train students to apply existing theories to specific business problems. The DBA also differs from the existing Master of Business Administration, which is advanced study designed for students to become successful business managers. The DBA program, alternatively, will enroll students who have already achieved success in business and want to build on their expertise by developing their knowledge of business research and theories that can be applied to business or organizational problems. DBA students will learn research methodology, identify important practical problems and relevant data, and apply this knowledge to an actual organization through a culminating capstone project. The program fits the classification of a Professional Practice doctoral degree sanctioned by the Maryland Higher Education Commission.

Students are required to complete a minimum of 54 credit hours beyond a bachelor's degree, or 30 credit hours beyond a master's degree. Students will choose one of three focus areas: information systems, marketing, or finance. Typically, students will take 42 credits in the following categories: research tools and methodologies (10 – 12 credits), courses in the student's major field of study (22 – 24 credits), and practice-focused elective courses (10 – 12 credits). Students must also successfully complete a capstone project, which will require two stages. The first stage is to propose a written project and present to a designated advisor and committee. The second stage is to complete the capstone project via a written and oral examination with the designated advisor and committee. The capstone project involves a substantial original research project that addresses a real-world problem in businesses or other organizations. The research project is designed to develop and demonstrate research skills that the candidate will utilize and build upon throughout their subsequent career.

DBA cohort sizes are expected to be 5-10 students per specialization. Cohorts should have a 3-year timeline to complete the program. The students applying for the DBA degree program should ideally possess a master's degree, either in Business, Economics, Engineering, or Sciences, although it is

not mandatory, and a Bachelor's degree will be considered under special circumstances. Applicants with a Bachelor's degree will be required to take additional coursework (12 credits at the master's level) or show relevant work experience in lieu of the coursework. The DBA program will be similar to other existing successful programs at Washington University in St. Louis, Case Western University, University of Florida, and Georgia State University. The program will be funded in part by tuition revenue and supporting funds from the Smith School. The Smith School, which also offers Master of Science programs in the three specialization areas, has the instructional and administrative resources to offer the program.

This proposal was approved by the Graduate School Programs, Curricula, and Courses committee on April 12, 2021, and the Senate Programs, Curricula, and Courses committee on May 7, 2021.

RECOMMENDATION(S)

The Senate Committee on Programs, Curricula, and Courses recommends that the Senate approve this new degree program.

COMMITTEE WORK

The committee considered this proposal at its meeting on May 7, 2021. Smith School Assistant Dean Rebecca Hann, Associate Dean P.K. Kannan, Assistant Dean Michael Marcellino, and Assistant Director Justina Blanco presented the proposal and answered questions from the committee. The proposal was approved by the committee.

ALTERNATIVES

The Senate could decline to approve this new degree program.

RISKS

If the Senate declines to approve this degree program, the university will lose an opportunity to provide a doctoral-level program for business leaders who seek to develop a more sophisticated knowledge of business theory, research methodology, and applications.

FINANCIAL IMPLICATIONS

Because this program is self-supported, there are no significant financial implications for this proposal.

669: DOCTORATE IN BUSINESS ADMINISTRATION

In Workflow

1. BMGT PCC Chair (bhorick@umd.edu; mmarcell@umd.edu)
2. BMGT Dean (ragar@umd.edu)
3. Academic Affairs Curriculum Manager (mcolson@umd.edu)
4. Justina Blanco (jblanco4@umd.edu)
5. Academic Affairs Curriculum Manager (mcolson@umd.edu)
6. Graduate School Curriculum Manager (aambrosi@umd.edu)
7. Graduate PCC Chair (aambrosi@umd.edu)
8. Dean of the Graduate School (sfetter@umd.edu; aambrosi@umd.edu)
9. Senate PCC Chair (mcolson@umd.edu; vorlando@umd.edu)
10. University Senate Chair (mcolson@umd.edu)
11. President (mcolson@umd.edu)
12. Board of Regents (mcolson@umd.edu)
13. MHEC (mcolson@umd.edu)
14. Provost Office (mcolson@umd.edu)
15. Graduate Catalog Manager (aambrosi@umd.edu)

Approval Path

1. Wed, 16 Oct 2019 16:24:54 GMT
   Michael Marcellino (mmarcell): Approved for BMGT PCC Chair
2. Wed, 30 Oct 2019 21:30:38 GMT
   Michael Colson (mcolson): Rollback to Initiator
3. Wed, 18 Dec 2019 13:51:44 GMT
   Brian Horick (bhorick): Approved for BMGT PCC Chair
4. Wed, 18 Dec 2019 14:46:46 GMT
   Ritu Agarwal (ragar): Approved for BMGT Dean
5. Thu, 30 Jan 2020 22:37:35 GMT
   Michael Colson (mcolson): Rollback to Initiator
6. Tue, 06 Oct 2020 20:17:47 GMT
   Brian Horick (bhorick): Approved for BMGT PCC Chair
7. Tue, 06 Oct 2020 20:49:24 GMT
   Ritu Agarwal (ragar): Approved for BMGT Dean
8. Mon, 23 Nov 2020 20:16:36 GMT
   Michael Colson (mcolson): Approved for Academic Affairs Curriculum Manager
9. Tue, 16 Feb 2021 15:58:38 GMT
   Justina Blanco (jblanco4): Approved for jblanco4
10. Wed, 24 Feb 2021 14:25:03 GMT
    Michael Colson (mcolson): Approved for Academic Affairs Curriculum Manager
11. Fri, 12 Mar 2021 14:50:56 GMT
    Angela Ambrosi (aambrosi): Rollback to jblanco4 for Graduate School Curriculum Manager
12. Wed, 24 Mar 2021 01:24:53 GMT
    Justina Blanco (jblanco4): Approved for jblanco4
13. Wed, 24 Mar 2021 15:12:05 GMT
    Michael Colson (mcolson): Approved for Academic Affairs Curriculum Manager
14. Wed, 07 Apr 2021 14:40:01 GMT
    Michael Colson (mcolson): Rollback to jblanco4 for Graduate School Curriculum Manager
15. Mon, 12 Apr 2021 13:39:23 GMT
    Justina Blanco (jblanco4): Approved for jblanco4
16. Mon, 12 Apr 2021 14:16:48 GMT
    Michael Colson (mcolson): Approved for Academic Affairs Curriculum Manager
17. Mon, 12 Apr 2021 16:02:49 GMT
    Angela Ambrosi (aambrosi): Approved for Graduate School Curriculum Manager
18. Mon, 12 Apr 2021 16:03:09 GMT

Angela Ambrosi (aambrosi): Approved for Graduate PCC Chair

19. Thu, 15 Apr 2021 12:03:26 GMT
    Steve Fetter (sfetter): Approved for Dean of the Graduate School
20. Sat, 08 May 2021 16:40:09 GMT
    Valerie Orlando (vorlando): Approved for Senate PCC Chair

New Program Proposal

Date Submitted: Tue, 06 Oct 2020 19:58:38 GMT

Viewing: 669 : Doctorate in Business Administration
Last edit: Mon, 12 Apr 2021 14:16:19 GMT

Changes proposed by: Justina Blanco (jblanco4)

Program Name

Doctorate in Business Administration

Program Status

Proposed

Effective Term

Fall 2021

Catalog Year

2021-2022

Program Level

Graduate Program

Program Type

Doctoral - Professional Practice

Delivery Method

On Campus

Departments

Department
The Robert H. Smith School of Business

Colleges

College
The Robert H. Smith School of Business

Degree(s) Awarded

Degree Awarded
Other

If other, new degree award:

Doctor of Business Administration

Proposal Contact

Rebecca Hann

Proposal Summary

The Smith Doctorate of Business Administration (DBA) is a practitioner-oriented professional doctoral-level degree designed for senior executives and researchers in industry and government in which advanced research skills in analyzing business problems are required. The DBA is an extended graduate study beyond a Master's degree with a focus on practical, applied research. The initial program concentration will focus on the areas of information systems, marketing, and finance, which are highlighted in this proposal as sample foci but other specializations in business will follow a similar format. The target of the program will be working professionals wishing to accelerate and solidify their careers as accomplished leaders in

business organizations and in government agencies using business and marketing analytics and/or focusing on financial market regulation or that have financial operations.

Cohort sizes are expected to be 5-10 students per specialization. Cohorts should have a 3-year timeline to complete the program. The DBA Degree requires 54 credits beyond a bachelor's degree or 30 credits beyond an approved master's degree for each specialization, which includes Research Tools & Methodologies, Major (specialization), practice-focused electives, and a capstone project. It is expected that 80% of enrolled students will already have a Master's degree. For the smaller percentage of enrolled students with only a Bachelor's degree, these students will be required to complete an additional 12 credits.

The program is intended to provide in-person instruction with optional blended style instruction. The program will accommodate full and part-time students with the course offerings during weekday evenings or on weekends. The program is designed so that students can complete the program in three years, however they could take longer depending on the time it takes for them to complete the required coursework. Each student in the Doctoral Program in Business Administration must have a Study Plan approved by the Program during the first year of the program, to be reviewed annually.

(PCC Log Number 20043)

Program and Catalog Information

Provide the catalog description of the proposed program. As part of the description, please indicate any areas of concentration or specializations that will be offered.

The Smith Doctorate of Business Administration (DBA) is a practitioner-oriented professional doctoral-level degree designed for senior executives and researchers in industry and government in which advanced research skills in analyzing business problems are required. The DBA is an extended graduate study beyond a Master's degree with a focus on practical, applied research. The target of the program will be working professionals wishing to accelerate and solidify their careers as accomplished leaders in business organizations and in government agencies using business and marketing analytics and/or focusing on financial market regulation or that have financial operations.

All students are required to complete a minimum of 54 credit hours beyond a bachelor's degree or 30 credit hours beyond a master's degree. Typically, students will take 42 credits in the following categories: Research Tools and Methodologies (10 – 12 credits), courses in the student's major field of study (22 – 24 credits), and practice-focused elective courses (10 – 12 credits). All students should take 12 credits of the capstone project research in addition to the coursework for graduation eligibility. In addition to passing each course, students are required to successfully pass their capstone project proposal before registering for the capstone project course. Finally, students must successfully complete their capstone project to graduate the program.

For those entering with a Master's degree, either in Business, Economics, Engineering or Sciences, the curriculum is a program with a set of pre-specified courses that provide rigorous content in the areas of information systems, marketing and finance, depending on the specialization. For those entering with only a Bachelor's degree in any area, there will be an additional 12 credits of coursework requirements. The program will accommodate part-time students with the course offerings during weekday evenings or on weekends. The program is designed so that students can complete the program in three years, however they could take longer depending on the time it takes for them to complete the required coursework. There is a maximum of 5 years to complete the program. Each student in the Doctoral Program in Business Administration must have a Study Plan approved by the Program during the first year of the program, to be reviewed annually.

Catalog Program Requirements:

All students are required to complete a minimum of 54 credit hours beyond a bachelor's degree or 30 credit hours beyond a master's degree. Typically, students will take 42 credits in the following categories: Research Tools and Methodologies (10 – 12 credits), courses in the student's major field of study (22 – 24 credits), and practice-focused elective courses (10 – 12 credits). All students should take 12 credits of the capstone project research in addition to the coursework for graduation eligibility. For those entering with only a Bachelor's degree in any area, there will be an additional 12 credits of coursework requirements. In addition to passing each course, students are required to successfully pass their capstone project proposal before registering for the capstone project course. Finally, students must successfully complete their capstone project to graduate the program.

The course listing below provides courses that meet the research tools and methodologies, major field of study, and practice-focused elective courses. Students are not required to take all of the courses listed nor are they limited to these courses. Some coursework is interdisciplinary in that students may take a course in another concentration to fulfill their specialization requirement. For example, BDBA820 Applied Microeconomics for Business can be used to complete the research tools and methodologies requirements of the Information Systems concentration and the Marketing (quantitative track) concentration. All course registration plans must be approved by the DBA Faculty Coordinator.

Course	Title	Credits
Research Tools & Methodologies		
INFORMATION SYSTEMS		
BDBA620	Course BDBA620 Not Found (Data Models and Decisions)	2
BDBA621	Course BDBA621 Not Found (Managerial Economics and Public Policy)	2
BDBA720	Course BDBA720 Not Found (Data Mining and Predictive Analysis)	2
BDBA820	Course BDBA820 Not Found (Applied Microeconomics for Business)	3
BDBA830	Course BDBA830 Not Found (Applied Multivariate Analysis)	2
FINANCE		
BDBA640	Course BDBA640 Not Found (Financial Econometrics I)	2

BDBA641	Course BDBA641 Not Found (Financial Econometrics II)	2
BDBA642	Course BDBA642 Not Found (Financial Mathematics)	2
BDBA643	Course BDBA643 Not Found (Financial Programming)	2
BDBA848(A-Z)	Course BDBA848(A-Z) Not Found (Special Topics in DBA in FIN)	1-4
MARKETING		
BDBA752	Course BDBA752 Not Found (Market-Based Management)	3
BDBA753	Course BDBA753 Not Found (Consumer Analysis)	3
BDBA754	Course BDBA754 Not Found (Statistical Programming)	3
BDBA755	Course BDBA755 Not Found (Marketing Research & Analysis)	3

Course	Title	Credits
Practice Focused Elective Courses		
INFORMATION SYSTEMS		
BDBA702	Course BDBA702 Not Found (Decision Analytics)	2
BDBA703	Course BDBA703 Not Found (Data Mining and Predictive Analysis)	2
BDBA708(A-Z)	Course BDBA708(A-Z) Not Found (Special Topics in DBA in Information Systems)	1-4
FINANCE		
BDBA747 (A-Z)	Course BDBA747 (A-Z) Not Found (Special Topics in DBA in FIN Asset Management)	1-4
BDBA748 (A-Z)	Course BDBA748 (A-Z) Not Found (Special Topics in DBA in FIN Corporate Finance)	1-4
MARKETING		
BDBA758(A-Z)	Course BDBA758(A-Z) Not Found (Special Topics in DBA in MKT)	1-4
BDBA857 (A-Z)	Course BDBA857 (A-Z) Not Found (Special Topics in DBA in MKT (CB))	1-4
BDBA858 (A-Z)	Course BDBA858 (A-Z) Not Found (Special Topics in DBA in MKT (Quant))	1-4

Course	Title	Credits
Major Field of Study Electives		
INFORMATION SYSTEMS		
BDBA600	Course BDBA600 Not Found (Strategic and Transformational IT)	2
BDBA601	Course BDBA601 Not Found (Managing Digital Business Markets)	2
BDBA701	Course BDBA701 Not Found (Project Management in Dynamic Environments)	2
BMGT801	Course BMGT801 Not Found (Research Methods in Information Systems)	2
BDBA802	Course BDBA802 Not Found (Institutions, Firms, and Collectives)	2
BDBA803	Course BDBA803 Not Found (Quality Transparency and the Value of Information Systems)	2
BDBA804	Course BDBA804 Not Found (Research in Strategy and IS I)	2
BDBA805	Course BDBA805 Not Found (Research in Strategy and IS II)	2
BDBA806	Course BDBA806 Not Found (Information Systems Economics I)	2
BDBA807	Course BDBA807 Not Found (Information Systems II)	2
BDBA808 (A-Z)	Course BDBA808 (A-Z) Not Found (Special Topics in DBA in Information Systems)	1-4
FINANCE		
BDBA644	Course BDBA644 Not Found (Financial Management)	2
BDBA645	Course BDBA645 Not Found (Advanced Capital Markets)	2
BDBA646	Course BDBA646 Not Found (Valuation in Corporate Finance)	2
BDBA647	Course BDBA647 Not Found (Derivative Securities)	2
BDBA740	Course BDBA740 Not Found (Applied Equity Analysis)	2
BDBA741	Course BDBA741 Not Found (Fixed Income Analysis)	2
BDBA742	Course BDBA742 Not Found (Portfolio Management)	2
BDBA743	Course BDBA743 Not Found (International Investment)	2
BDBA744	Course BDBA744 Not Found (Financial Strategy for Corporation)	2
BDBA745	Course BDBA745 Not Found (Corporate Governance and Performance)	2
BDBA746	Course BDBA746 Not Found (International Corporate and Project Finance)	2
BDBA840	Course BDBA840 Not Found (Seminar in Financial Theory)	3
BDBA841	Course BDBA841 Not Found (Seminar in Corporate Finance)	3
BDBA842	Course BDBA842 Not Found (Topics in Empirical Corporate Finance)	3
BDBA843	Course BDBA843 Not Found (Seminar in Asset Pricing)	3

MARKETING		
BDBA750	Course BDBA750 Not Found (Innovation and Product Management)	2
BDBA751	Course BDBA751 Not Found (Integrated Brand Management)	2
BDBA752	Course BDBA752 Not Found (Market-Based Management)	3
BDBA753	Course BDBA753 Not Found (Consumer Analysis)	3
BDBA754	Course BDBA754 Not Found (Statistical Programming)	3
BDBA755	Course BDBA755 Not Found (Marketing Research & Analysis)	3
BDBA756	Course BDBA756 Not Found (Advanced Marketing Analytics)	3
BDBA757	Course BDBA757 Not Found (Data Science)	3
BDBA850	Course BDBA850 Not Found (Seminar in Marketing Strategy)	2
BDBA851	Course BDBA851 Not Found (Seminar in Consumer Behavior)	3
BDBA852	Course BDBA852 Not Found (Seminar in Marketing Models)	3
BDBA853	Course BDBA853 Not Found (Seminar in Structural Models)	2
BDBA854	Course BDBA854 Not Found (Seminar in Analytical Models)	2
BDBA855	Course BDBA855 Not Found (Seminar in MCMC Estimation)	2
BDBA856	Course BDBA856 Not Found (Experimental Design)	2
Course	**Title**	**Credits**
Capstone Project		
BMGT829	Course BMGT829 Not Found (Capstone Project)	6

Sample plan. Provide a term by term sample plan that shows how a hypothetical student would progress through the program to completion. It should be clear the length of time it will take for a typical student to graduate. For undergraduate programs, this should be the four-year plan.

The Sample Plans listed below provide an example of how and when the courses will be offered per specialization. This is just an example as there are other courses available that students may choose to complete the requirements. Students will be required to complete a program plan and consult the DBA Faculty Coordinator.

Information Systems: Sample Coursework for Information Systems

Semester 1

BDBA830 Applied Multivariate Analysis 3 credits

BDBA820 Applied Microeconomics for Business 3 credits

BDBA601 Data Models and Decisions 2 credits

BDBA600 Strategic and Transformational IT 2 credits

Semester 2

BDBA801 Research Methods in Information Systems 2 credits

BDBA720 Data Mining and Predictive Analytics 3 credits BUSI 622 Managing Digital Businesses and Markets 2 credits

BDBA804 Research in Strategy and Information Systems - I 2 credits

BDBA805 Research in Strategy and Information Systems – II 2 credits

Semester 3

BDBA821 Data Science Research Seminar 2 credits

BDBA802 Institutions, Firms, and Collectives 2 credits

BDBA803 Quality Transparency and the Value of Information 2 credits

BDBA708(A-Z) Special Topics in DBA in Information Systems 1-4 credits

BDBA808(A-Z) Special Topics in DBA in Information Systems 1-4 credits

Semester 4

BDBA806 Information Systems Economics I 2 credits

BDBA807 Information Systems Economics II 2 credits

BDBA708(A-Z) Special Topics in DBA in Information Systems 1-4 credits

BDBA808(A-Z) Special Topics in DBA in Information Systems 1-4 credits

Semester 5

BDBA829 Capstone Project 6 credits

Semester 6

BDBA829 Capstone Project 6 credits

Marketing: Sample Coursework for Marketing

Semester 1

BDBA752 Market-Based Management 3 credits

BDBA753 Customer Analysis 3 credits

BDBA754 Statistical Programming 3 credits

BDBA758(A-Z) Special Topics in DBA in MKT 1-4 credits

Semester 2

BDBA755 Marketing Research and Analysis 3 credits

BDBA756 Advanced Marketing Analytics 2 credits

BDBA758(A-Z) Special Topics in DBA in MKT 1-4 credits

BDBA821 Data Science 3 credits

Semester 3

BDBA758(A-Z) Special Topics in DBA in MKT 1-4 credits

BDBA851 Seminar in Consumer Behavior 3 credits

BDBA852 Seminar in Marketing Models 3 credits

BDBA858(A-Z) Special Topics in DBA in MKT (Quant) 1-4 credits

Semester 4

BDBA758(A-Z) Special Topics in DBA in MKT 1-4 credits

BDBA850 Seminar in Marketing Strategy 3 credits

BDBA854 Seminar in Analytical Modeling 2 credits

BDBA858(A-Z) Special Topics in DBA in MKT (Quant) 1-4 credits

Semester 5

BDBA829 Capstone Project 6 credits

Semester 6

BDBA829 Capstone Project 6 credits

Finance: Sample Plan

Semester 1

BDBA640 Financial Econometrics I 2 credits

BDBA641 Financial Econometrics II 2 credits

BDBA645 Advanced Capital Markets 2 credits

BDBA747(A-Z) Special Topics in DBA in FIN Asset Management Track 1-4 credits

BDBA748(A-Z) Special Topics in DBA in FIN Corporate Finance Track 1-4 credits

Semester 2

BDBA643 Financial Programming 2 credits

BDBA646 Valuation in Corporate Finance 2 credits

BDBA740 Applied Equity Analysis 2 credits

BDBA741 Fixed Income Analysis 2 credits

BDBA848(A-Z) Special Topics in DBA in FIN 1-4 credits

Semester 3

BDBA742 Portfolio Management 2 credits

BDBA747(A-Z) Special Topics in DBA in FIN Asset Management Track 1-4 credits

BDBA840 Theory of Finance 3 credits

BDBA848(A-Z) Special Topics in DBA in FIN 1-4 credits

Semester 4

BDBA747(A-Z) Special Topics in DBA in FIN Asset Management Track 1-4 credits

BDBA843 Seminar in Asset Pricing 3 credits

BDBA848(A-Z) Special Topics in DBA in FIN 1-4 credits

Semester 5

BDBA829 Capstone Project 6 credits

Semester 6
BDBA829 Capstone Project 6 credits

List the intended student learning outcomes. In an attachment, provide the plan for assessing these outcomes.

Learning Outcomes
LEARNING OUTCOME 1 Students will demonstrate a clear understanding of the research tools and methodologies for research investigation and analysis.
LEARNING OUTCOME 2 Students will demonstrate a clear understanding of foundational topics and analysis techniques.
LEARNING OUTCOME 3 Students will demonstrate a clear understanding of analytical skills applied to business problems.
LEARNING OUTCOME 4 Students will demonstrate their ability to apply foundational theories and quantitative research methods and practice-oriented skills to a business research problem.

New Program Information

Mission and Purpose

Describe the program and explain how it fits the institutional mission statement and planning priorities.

The Robert H. Smith School of Business proposes (re)launching the Doctorate of Business Administration (DBA) program. It is designed to provide working professionals with a rigorous understanding of and the ability to apply state-of-the-art developments in applied business research to the challenges confronting their organizations. This program's mission is to offer an excellent professional graduate program that is nationally recognized for their contributions to the practice of the professions, for their pioneering curricula, and for their spirit of innovation and creativity.

With the rapid developments in technology, evolution of big data and artificial intelligence, machine learning techniques, impacting traditional and digital marketplaces and leading to innovative business and financial models, there is a growing demand for senior executives who have a deep understanding of these developments and apply it in practice. The University of Maryland, College Park mission statement sets a goal to “continue to build a strong, university-wide culture of graduate and professional education” and to provide knowledge-based programs and services that are responsive to the needs of the citizens of the state and the nation. The Robert H. Smith School of Business houses one of the strongest academic faculties in the world and regularly places in the Top 15 in the Financial Times Rankings of “Top Professional Research Institutions in Business.” The research and experience of the faculty are particularly suited to attract some of the brightest executives in the world who are seeking a more thorough understanding of business analytics, marketing technology (martech), finance technology (fintech) and associated business, marketing and financial issues and their global implications. Faculty and staff currently affiliated with the Robert H. Smith School of Business hold appropriate degrees in economics, statistics, marketing, finance, information systems, management, and public policy that are relevant and necessary for the Doctorate of Business Administration degree.

Difference between the proposed DBA and current PhD and MBA programs:

Our current PhD program trains students to become scholars, continue to do full-time research, publish papers, teach courses and become full-time professors. The PhD program is aimed at training students to create new theory and methodologies in their respective areas of research, by identifying gaps in knowledge and fill those gaps with their research work. In contrast, the DBA program is focused on training students to combine research with concrete business problems. It is less focused on extending existing theories, rather focuses on applying existing theories to explain specific problems, which typically arise in the companies where students work. To this end, the DBA capstone project could use a case-study approach instead of an empirical research approach. In short, the DBA capstone project centers around a practical problem from the business world that is deemed relevant from both sides, business managers as well as scholars. Such projects are not part of our MBA program, which trains students to be successful managers. In contrast, the DBA students would be individuals who have already achieved success in business for some time and seek a new intellectual challenge. They may already have an MBA degree and want to further distinguish themselves through research. This population is very different from the students we have in our current PhD program, who are younger in age and generally lack business experience. Therefore, the focus of the DBA program is to train mature business professionals in research methodology, helping them identify important practical business problems and relevant data, in order to solve those problems presented in their DBA capstone project. Graduates of the DBA program will leave with advanced knowledge and the skilled perspective to generalize approaches to situations beyond the current context, at times even applying or publishing the research for industry. DBA graduates may continue in their current employment with promotion using the high degree attainment to climb their company’s hierarchy. Because of their degree status and work experience, DBA graduates may be called upon to give guest lectures, adjunct teaching or publish in practitioner or academic journals. Thus, objectives of the DBA program go far beyond that of our MBA program.

The design of the Smith DBA is similar to a number of other peer university programs such as Washington University at St. Louis, University of Florida, Case Western University, Temple University, and Rutgers University in that the focus of the program is on practitioners/executives with significant experience in industry with an objective to graduate practitioner-scholars. The rise in such programs is another indication of the need for such programs among practitioners. Our program is different from the DBA program offered in Harvard University which does not make the distinction between practitioners and others. The comparison of our program with other major DBA programs across different dimensions is provided in an appendix (6_DBA Benchmark Data).

In terms of the number of credit hours required, the Smith DBA program is in the middle of the range (30-60 credits) with 54 credits beyond a bachelor's degree or 30 credits beyond a master's degree. One of the unique aspects of the Smith DBA is the inclusion of practice-oriented courses in each of the program areas as it provides significant opportunities for taking practice-oriented courses, which is not as evident in the other programs. Comparison of the DBA curriculum to the PhD curriculum is provided in the appendix. (2_Curriculum Comparison).

Program Characteristics

What are the educational objectives of the program?

The proposed DBA program offered by the Robert H Smith School of Business will provide students with programmatic skill sets in the following:

a) Comprehensive knowledge of foundational concepts in the respective concentration areas – information systems, marketing and finance.

b) Analytical skills in the respective concentration areas - information systems, marketing and finance.

c) The competency necessary to take leadership roles in business and financial organizations with global reach.

d) Knowledge of the legal and ethical issues related to big data management, privacy preservation, marketing research, financial management and an understanding of the role of all stakeholders when capital allocation decisions are made.

INFORMATION SYSTEMS: Educational Objectives

1) Comprehensive knowledge and analytical skills including data mining and prediction models, decision analytics, big data and artificial intelligence, social media and web analytics, market segmentation, etc.

2) The ability to leverage emerging technologies including artificial intelligence, Internet of things, and novel sources of mobile and social data to develop agile businesses strategies and inform policy.

3) Understanding of foundational theory and practical application of information systems topics.

MARKETING: Educational Objectives

1) Comprehensive knowledge and analytical skills including data mining and prediction models, decision analytics, social media and web analytics, market segmentation, marketing mix models, personalization and recommendations, attribution modeling, etc.

2) Using behavioral theories to understand users' as well as customers' motivation, attitudes and behaviors and make behavioral predictions.

3) Understanding of foundational theory and practical application of marketing behavioral and quantitative topics.

FINANCE: Educational Objectives

1) Comprehensive knowledge and analytical skills including financial products and financial market structure, detailed financial modeling, the ability to design and empirically estimate financial relationships and creation of financial statements and forecasts.

2) An understanding of the regulatory structure of financial markets and the role that policymakers and regulators play in the efficient operation of financial markets.

3) Understanding of foundational theory and practical application of finance topics.

Describe any selective admissions policy or special criteria for students interested in this program.

Admission is for the Fall semester only. Applicants must meet the following minimum admission criteria as established by the Graduate School:
• Applicants must have earned a four-year baccalaureate degree from a regionally accredited U.S.
institution, or an equivalent degree from a non-U.S. institution.
• Applicants must have earned a 3.0 GPA (on a 4.0 scale) in all prior undergraduate and graduate coursework.
• Applicants must provide an official copy of a transcript for all of their post-secondary work.
• International applicants must fulfill all requirements relating to international academic credentials, evidence of English proficiency, financial certification, and visa documentation.

Applicants must fulfill the Smith DBA admission requirements:
• Applicants must have a bachelor's degree, but master's degrees are preferred.
• Official transcripts for all post-secondary work.
• Three letters of recommendations that address the applicant's academic capabilities and probability of success in a doctoral program.
• Statement of Goals and Interests.
• Resume or CV.

The students applying for the DBA degree program should ideally possess a Master's degree, either in Business, Economics, Engineering or Sciences, although it is not mandatory and a Bachelor's degree will be considered under special circumstances. Applicants with a Bachelor's degree will be required to take additional coursework (12 credits at the master's level) or show relevant work experience in lieu of the coursework. The DBA admittance committee will make the final determination on additional coursework requirements.

Post-Masters students who are practicing senior managers may enroll in the Doctoral Program in Business Administration on either a full-time or a part-time basis. Classes will be offered on weekday evenings and/or weekends to accommodate all students.

All students will be required to complete the core requirements in their concentration area, research tools and methodology courses, practice-focused electives and the final capstone project.

Summarize the factors that were considered in developing the proposed curriculum (such as recommendations of advisory or other groups, articulated workforce needs, standards set by disciplinary associations or specialized-accrediting groups, etc.).

The Association to Advance Collegiate Schools of Business (AACSB), the highest accreditation body for business schools, highlighted the following in their report of the AACSB International Doctoral Education Task Force (2013): "Today's evolving faculty models increasingly are incorporating industry engagement and the production of research that bridges the academia-practice divide…Skills refined through doctoral education, such as problem framing and data analysis, are increasingly valued in certain professional roles and industry circles."

The report further highlights the growing need for professional doctoral education with this following call: "New doctoral education models that are emerging collectively serve a broader range of career paths and research outcomes, thus expanding the capabilities and employability of doctoral graduates. The trend should be encouraged." The demand estimates for such graduates are also increasing as evidenced in the job postings and the industry trend reports appended to this proposal (8_Industry Trends).

Therefore, the program is structured to provide a higher skill set in regards to leadership and problem-solving than one would earn in a Master's degree, but provide a more practical application approach than a doctor of philosophy program would provide to working professionals. The major courses will introduce a combination of foundation theories and practical applications. The methodology courses will build the analytical skills necessary to construct, compute, and analyze problems and results. Practice-focused courses will continue bridging the foundational theories with the practical applications but will focus more on the latter and allow for flexibility to encompass the trending business administration practices. The capstone project will allow individuals to investigate a real-world topic or issue by applying foundational theories and practical applications within the proper measurements.

Select the academic calendar type for this program (calendar types with dates can be found on the Academic Calendar **(**https://www.provost.umd.edu/calendar/**) page)**

Traditional Semester

Identify specific actions and strategies that will be utilized to recruit and retain a diverse student body.

The Robert H. Smith School of Business community is multifaceted at every level – students, staff and faculty represent a diverse blend of backgrounds, nationalities, ethnicities and experiences. To attract the most diverse population possible for the proposed DBA program, Smith School recruiting staff will focus on identifying leaders from a variety of industries and geographic locations, employing many of the same strategies that have generated significant diversity in our MBA and Executive MBA programs. For example, our faculty and students work with liaisons at companies such as Oracle, Security Exchange Commission, IMF, etc. These are valuable companies that serve as data resources. The Doctor of Philosophy program is focused on an academic career path, whereas the Doctor of Business Administration program would be a valuable and highly reputable degree for many of these liaisons and companies.

Currently, the Doctoral Program Office participates in recruitment at The PhD Project. The PhD Project was founded by KPMG, CITI AACSB and GMAC. This organization is specific to propelling workplace diversity by increasing diversity of business schools specifically. The program introduces underrepresented minorities to doctoral programs in business with focus on research, teaching, and executive DBA programs. Additionally, The PhD Project continues support and resources with individuals as they become students in doctoral programs and later as faculty or executives in industry. This would be a great source for recruitment and retainment specifically to diversify not just the program population but also leaders in industry with doctoral education.

Please describe the Post-Coursework or Mid-Program Evaluation component of this program.

Mid-Program Evaluation (all programs, all tracks):
The DBA program is a 3-year program. The progress in the program will be evaluated at 3 main phases in the program.

1. At the end of the first-academic year, the students need to maintain a GPA of 3.0 in the courses that they have taken in the first year, to continue in the program. A GPA of less than 3.0 would lead to a 6-month probationary period. If after the 6 months, the student fails to improve the GPA then the student will be counseled from the program. This is in compliance with the UMD Graduate School policy for "good standing".
2. At the end of second year with the completion of all coursework, the students need to have a GPA of 3.25 to continue to the capstone project stage. Students with a GPA less than 3.25 would be evaluated by a faculty committee on their continuance in the program. Ultimately, students must maintain a 3.25 GPA to continue to the Capstone project stage is a program requirement. This is in compliance with the UMD Graduate School policy for "satisfactory progress."

3. Evaluation of the capstone project proposal: Students need to propose their capstone project, which should be scheduled during the first semester of the third year, earlier in the semester than later. Upon successful proposal, the students can continue their project towards completion. The criteria for the capstone project proposal and the completed project are described later in this section.

4. Students who are not able to continue in the program at the end of the second-year or are unable to successfully propose the capstone project will be offered a master's degree in the general business and management specialization (MS in Business & Management). Eligibility for specialty Master's (in business concentrations) will be evaluated by the Smith School Master's Program Office and approved by the University of Maryland Graduate School. Courses must be successfully completed (passing grade B- or higher) and satisfy the requirements on file with the University of Maryland and MHEC.

Please provide examples of how students might fulfill the Doctoral Capstone requirement.

The DBA program requires two stages of the capstone project. The first stage is to propose a written project and present to a designated advisor and committee. The second stage is the final stage which is the completed capstone project via a written and oral examination with the designated advisor

and committee. The capstone project involves a substantial original research project that addresses a real-world problem in business or government. The research is designed to develop and demonstrate research skills which the candidate will utilize and build upon throughout their subsequent career. Close working relationships with committee members and pursuit of relevant data, research methodologies, and literature are essential aspects of a successful research project. Preparation of the final document is just one of several requirements of the capstone research project. Committee selection, topic selection, data collection, design and conduct of research, highlighting implications of the research for industry are other large and critical aspects of the capstone project.

This project will generally include:

• Identification of a real-world business problem that will constitute the primary focus of the research.
• Explanation of the subject of the research, including its connection with the current state of knowledge and prior literature.
• Demonstration of the methodologies used in the research, including the appropriateness of the method to deal with the subject.
• Description of the data to be utilized in the research.
• Additional content and supporting materials as determined by the chair and the committee members.

Evaluation of the Capstone Project:
1. The first stage evaluation of the capstone project is through the capstone project proposal. The student works closely with the DBA committee chair and other committee members (one of whom could include an executive from the student's context/place of the project) to prepare the capstone project proposal. The document will generally include:
a. Identification of a real-world business problem that will constitute the primary focus of the research.
b. Explanation of the subject of the research, including its connection with the current state of knowledge and prior literature.
c. Demonstration of the methodologies used in the research, including the appropriateness of the method to deal with the subject.
d. Description of the data to be utilized in the research.
e. Additional content and supporting materials as determined by the chair and the committee members.

When a proposal draft is ready, the candidate should designate their research committee and schedule their proposal presentation.

The criteria for evaluating the project will include (1) the importance of the problem and the potential impact for practice, (2) potential for implementation of the solutions arising from the research (2) the generalizability of the intended research for different practical applications, (3) the fidelity of the research methodologies and design, (4) completeness and suitability of the data, (5) the likelihood of completing the project on time given the scope, and (6) whether proposal demonstrates research skills which the candidate will utilize and build upon throughout their subsequent career.

Based on the above criteria, the committee could suggest revisions to the project proposal. If the proposal does not meet the standards and cannot be revised within a reasonable timeframe (3 months), the committee would render an evaluation of "fail" and counsel the student from the program.

2. The final capstone project will require the student to work closely with the DBA committee to ensure it is on track for a successful completion. Necessary conditions for a successful project involve evidence of either actual implementation of the solution derived from the research or potential for near-term implementation of the project, a written report outlining the project problem, research design and methodologies, findings/results, plan for implementation, and a highlight of implications of the research for the industry, all of which should evidence high attainment in professional practice. The students will also defend their project orally in front of the committee.

Relationship to Other Units or Institutions

If a required or recommended course is o#ered by another department, discuss how the additional students will not unduly burden that department's faculty and resources. Discuss any other potential impacts on another department, such as academic content that may significantly overlap with existing programs. Use space below for any comments. Otherwise, attach supporting correspondence.

None at this time.

Accreditation and Licensure. Will the program need to be accredited? If so, indicate the accrediting agency. Also, indicate if students will expect to be licensed or certified in order to engage in or be successful in the program's target occupation.

The Robert H. Smith School of Business is accredited with the Association to Advance Collegiate Schools of Business. The Smith School of Business will follow the appropriate steps to list the DBA accordingly. It is not expected that graduates of the DBA program will require any additional certifications. Once the program has been launched, it will be submitted for accreditation by the American Association of Collegiate Business Schools (AACSB) that accredits all business school programs. All the other degree programs offered at the Smith School of Business are AACSB accredited.

Describe any cooperative arrangements with other institutions or organizations that will be important for the success of this program.

None. The program is fully contained and delivered within the Smith School of Business.

Faculty and Organization

Who will provide academic direction and oversight for the program? In an attachment, please indicate the faculty involved in the program. Include their titles, credentials, and courses they may teach for the program.

The DBA program will fall under the Assistant Dean of Doctoral Program, which requires tenured and full professor credentials and follows a 3-year term with option to renew as approved by the Dean of the Smith School of Business. Each area of concentration (Marketing, Finance, and Information

Systems) would have a faculty coordinator that would oversee the students in the area of specialization as well as serve on an oversight committee guided by the Assistant Dean of Doctoral Program. These coordinator positions would be a minimum of 2 years.

Currently, Rebecca Hann, Professor of Accounting and Information Assurance, serves as the Assistant Dean of Doctoral Program. P.K. Kannan, Dean's Chair in Marketing Science will serve as faculty coordinator for the Marketing area of specialization. Mark Loewenstein, Associate Professor of Finance will serve as faculty coordinator for the Finance area of specialization. Siva Viswanathan, Professor of Information Systems, will serve as faculty coordinator for the Information Systems area of specialization.

Indicate who will provide the administrative coordination for the program

In regard to the administrative coordination, the DBA program will utilize several current offices within the Smith School of Business. The Smith School of Business currently has a PhD Office staffed with a coordinator, assistant director, and assistant dean. Depending on the demands of the program, the Smith School may allocate staff and resources from the Master's Program Office and Executive Education Office. These offices currently have staff whose talent may be best to assist with the demands of the DBA program.

Resource Needs and Sources

Each new program is required to have a library assessment prepared by the University Libraries in order to determine any new library resources that may be required. This assessment must be done by the University Libraries. Add as an attachment.

Please see appendix (4_Collection Assessment).

Discuss the adequacy of physical facilities, infrastructure and instructional equipment.

The Smith School has access to excellent resources and facilities for this program. There are sufficient classrooms and conference rooms to accommodate the cohorts. The rooms provide all the technology required including PowerPoint, recordings, doc cameras, etc.

Discuss the instructional resources (faculty, staff, and teaching assistants) that will be needed to cover new courses or needed additional sections of existing courses to be taught. Indicate the source of resources for covering these costs.

As provided in appendix (1_DBA Course Number Updates), 70% of the courses already exist and will be cross-listed with the BDBA course number. This will aid in tracking the DBA participants and distribution of any instructional costs and shared budgets. Supervision by faculty for the coordinator positions and adviser roles would be part of the teaching and research commitment. This would not be viewed as a separate allocation of workload on the faculty.

About 1/3 of courses will be created for the DBA program, which is are special topics for each area of specialization and the capstone project courses. BDBA829 will be the Capstone Project course. The special topic courses include: BDBA857 (A-Z), BDBA858 (A-Z), BDBA747 (A-Z), BDBA748 (A-Z), and BDAB708 (A-Z). These courses may change over time to reflect the current trends in real world business applications.

In the beginning, cohort sizes are envisioned to be rather small (5 students per specialization). As the cohort sizes grow, the Smith School of Business would cover the additional costs needed via the generated revenue.

Discuss the administrative and advising resources that will be needed for the program. Indicate the source of resources for covering these costs.

In regards to the administrative resources, the DBA program will utilize several current offices within the Smith School of Business. The Smith School of Business currently has a PhD Office staffed with a coordinator, assistant director, and assistant dean. Depending on the demands of the program, the Smith School may allocate staff and resources from the Master's Program Office and Executive Education Office. These offices currently have staff whose talent may be best to assist with the demands of the DBA program.

In terms of advising, the DBA faculty coordinator (as described above) will be responsible for the majority of advising. Other faculty involved with the courses and specialization may also advise and/or participate on capstone project committees. These resources will be calculated similar to that of the PhD Program in that advising is a component of their teaching and research commitments and not a separate work load.

Use the Maryland Higher Education Commission (MHEC) commission financial tables to describe the program's financial plan for the next five years. See help bubble for financial table template. Use space below for any additional comments on program funding.

Attached is the appendix (5_DBA Budget Sheet).

Implications for the State (Additional Information Required by MHEC and the Board of Regents)

Explain how there is a compelling regional or statewide need for the program. Argument for need may be based on the need for the advancement of knowledge and/or societal needs, including the need for "expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education." Also, explain how need is consistent with the Maryland State Plan for Postsecondary Education **(**https://mhec.state.md.us/About/Documents/2017.2021%20Maryland%20State%20Plan%20for%20Higher%20Education.pdf**).**

The DBA program fits State of Maryland's mission of offering excellent professional graduate programs that are nationally recognized for their contributions to the practice of the professions, for their pioneering curricula, and for their spirit of innovation and creativity With the rapid developments in technology, evolution of big data and artificial intelligence, machine learning techniques, impacting traditional and digital marketplaces and leading to innovative business and financial models, there is a growing demand for senior executives who have a deep understanding of these developments and apply it in practice. The University of Maryland College Park mission statement sets a goal to "continue to build a strong, university-wide culture of graduate and professional education" and to provide knowledge-based programs and services that are

responsive to the needs of the citizens of the state and the nation. The DBA program focuses on developing application-oriented research skills that students can use in their practice-based careers against a doctoral program which prepares students to conduct fundamental research and publish papers. The skills that are taught in the DBA program go beyond those taught in the MBA program or in any of the specialized Master's program in business. Seminar courses are specifically designed for the DBA students that provide application-oriented skills in their respective disciplines culminating in a practice-oriented capstone project that integrates students' learnings in the various DBA-specific courses. The DBA program is positioned similar to the other existing successful programs in Washington University at St. Louis, Case Western University, University of Florida, and Georgia State University.

Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program. Possible sources of information include industry or disciplinary studies on job market, the USBLS Occupational Outlook Handbook **(**https://www.bls.gov/ooh/**), or Maryland state** Occupational and Industry Projections **(**http://www.dllr.state.md.us/lmi/iandoproj/**) over the next five years. Also, provide information on the existing supply of graduates in similar programs in the state (use MHEC's Office of Research and Policy Analysis** webpage **(**http://mhec.maryland.gov/publications/Pages/research/**) for Annual Reports on Enrollment by Program) and discuss how future demand for graduates will exceed the existing supply. As part of this analysis, indicate the anticipated number of students your program will graduate per year at steady state.**

The Bureau of Labor Statistics (1) indicates that District of Columbia and Virginia are two of the top states in the US employing management level positions with annual wages in the six figures. Additionally, the bureau of statistics indicates that the "Washington-Arlington-Alexandria, DC-VA-MD-WV" is one of the top metro areas for employing management level positions again with a six-figure annual wage.

This is further highlighted by a 2016 report "Trends in Workforce Demand" conducted by the Metropolitan Washington Council of Governments(2). This report charts the job growth in the Metropolitan Washington DC area as well as compares to the national averages of job growth. Most specifically, the DC/MD/VA region has seen a 14% job growth rate in Education and Health Services and 6% growth rate in both Professional and Business Services and Trade, Transportation and Utilities. By specifically drilling down the Professional and Business Services industry cluster, we see growth specifically in the Management, Scientific and Technical Consulting Services. It further shows that the top industries in the DC/MD/VA area are Accenture, Booz Allen Hamilton, and Deloitte. These companies are specifically known to prefer individuals with PhD's or DBA's for their executive and top research positions.

The DBA will focus on three areas of specialization that reflect these same job growth trends in the DC/MD/VA. The Finance specialization will provide the skill set required by not only the top industries identified above but also by the highly regarded employers at the IMF, Cornerstone Research, World Bank, and the Federal Reserve Board. The Information Systems area of specialization would provide individuals with business analytics expertise and expand on project management training. These skills are specifically regarded by companies such as Booz Allen Hamilton. The Marketing area of specialization will also expand on marketing analytics and consumer behavior within an industry and management perspective. With the development of Amazon's H2Q coming to the Washington DC area metro, we anticipate that these skills in all three areas of specializations will be highly coveted. Employers may even work with their current employees in sponsorship of the DBA education.

(1) https://bls.org/ooh
(2) https://wtop.com/wp-content/uploads/2016/05/312455432-The-Trends-in-Workforce-Demand-Report-by-the-Metropolitan-Washington-COG.pdf

Identify similar programs in the state. Discuss any di#erences between the proposed program and existing programs. Explain how your program will not result in an unreasonable duplication of an existing program (you can base this argument on program di#erences or market demand for graduates). The MHEC website can be used to find academic programs operating in the state: http://mhec.maryland.gov/institutions_training/pages/HEPrograms.aspx

University of Maryland, Global Campus offers a Doctor of Management (professional practice) with the reputation of catering to the working professional. The Doctor of Management is typically arranged to enable individuals to teach in academia as clinical faculty and/or obtain leadership positions. The Smith School of Business will offer a Doctor of Business Administration, which offers a more holistic education in applied research with careers in teaching, analysis, and management and not just focused on leadership and teaching. The Smith School of Business is accredited with the AACSB, which provides a nationally recognized distinction. In addition to reviewing MHEC's website, we reviewed the list of DBA or Doctor of Management programs provided by the AACSB. The list demonstrates a nationwide demand for the DBA program. The Smith School of Business would be the only AACSB accredited DBA program in Maryland.

Discuss the possible impact on Historically Black Institutions (HBIs) in the state. Will the program affect any existing programs at Maryland HBIs? Will the program impact the uniqueness or identity of a Maryland HBI?

We have recognized that Morgan State University offers a PhD in Business and Administration. However, the primary goals of both programs do not seem to be aligned. Morgan State University's PhD in Business and Administration focuses on those interested in teaching in higher education and may be more aligned with Smith's PhD in Business and Management program, while Smith's DBA program would be focused on practical application for industry rather than academics. We have attached a brief comparison of the programs (7_Key Differences Smith DBA vs Morgan PHD).

Supporting Documents

Attachments

1_DBA Courses Number Updates.xlsx
7_Key Differences Smith DBA vs Morgan PhD .docx
9_Response to PCC Questions on Smith DBA March 2021.docx
8_Industry Analysis for DBA.docx

6_DBA Benchmark Data.xlsx
5_DBA Budget Sheet.xlsx
4_Collection_Assessment_DBA.docx
3_Learning Outcomes.docx
2_Curriculum Comparsion.xlsx
10_DBA Faculty.xlsx

Reviewer Comments

Michael Colson (mcolson) (Wed, 30 Oct 2019 21:30:38 GMT): Rollback: Returning at college's request.

Michael Colson (mcolson) (Thu, 30 Jan 2020 22:37:35 GMT): Rollback: Returning for updates.

Angela Ambrosi (aambrosi) (Fri, 12 Mar 2021 14:50:56 GMT): Rollback: Edits needed

Michael Colson (mcolson) (Wed, 07 Apr 2021 14:40:01 GMT): Rollback: Rolling back to allow for more revisions.

Key: 669

Course Course	BDBA Tentative Labels
600-607	Information Systems
608	Special Topics in Information Systems
610-617	Accounting
618	Special Topics in Accounting
620-627	General DBA
628	Special Topics in General DBA
630-637	Operations Management/Management Science Courses
638	Special Topics in Operations Management/Management Science Coursese
640-647	Finance
648	Special topics in Finance
650-657	Marketing
658	Special Topics in Marketing
660-667	Organizational Behavior/Human Resource Management
668	Special Topics in Organizational Behavior/Human Resource Management
670-677	Strategic Management & Entrepreneurship
678	Special Topics in Strategic Management & Entrepreneurship
680-687	Supply Chain Management
688	Special Topics In Supply Chain Management
690-697	General DBA
698	Special Topics in General DBA
700-707	Information Systems
708	Special Topics in Information Systems
710-717	Accounting
718	Special Topics in Accounting
720-727	General DBA
728	Special Topics in General DBA
730-737	Operations Management/Management Science Courses
738	Special Topics in Operations Management/Management Science Coursese

740-747	Finance
748	Special topics in Finance
750-757	Marketing
758	Special Topics in Marketing
760-767	Organizational Behavior/Human Resource Management
768	Special Topics in Organizational Behavior/Human Resource Management
770-778	Strategic Management & Entrepreneurship
778	Special Topics in Strategic Management & Entrepreneurship
780-787	Supply Chain Management
788	Special Topics In Supply Chain Management
790-797	General DBA
798	Special Topics in General DBA
799	Capstone
800-807	Information Systems
808	Special Topics in Information Systems
810-817	Accounting
818	Special Topics in Accounting
820-827	General DBA
828	Independent Study in DBA
830-837	Operations Management/Management Science Courses
838	Special Topics in Operations Management/Management Science Coursese
840-847	Finance
848	Special topics in Finance
850-857	Marketing
858	Special Topics in Marketing
860-867	Organizational Behavior/Human Resource Management
868	Special Topics in Organizational Behavior/Human Resource Management
870-878	Strategic Management & Entrepreneurship
878	Special Topics in Strategic Management & Entrepreneurship
880-887	Supply Chain Management

888	Special Topics In Supply Chain Management
890-897	General DBA
898	Special Topics in General DBA
829	Capstone Project

Course #	Course Title	Course Credits	Cross-Referenced to	Meets Requirements:	Notes	Course content:	New Number	Notes
BDBA829	Capstone Project	6.00		Capstone				
BDBA600	Strategic and Transformational IT	2.00	BUSI621	Major in IS (Topical)				
BDBA601	Managing Digital Business Markets	2.00	BUSI622	Major in IS (Topical)				
BDBA701	Project Management in Dynamic Environments	2.00	BUSI785	Major in IS (Topical)				
BDBA801	Research Methods in Information Systems	2.00	BMGT808O	Major in IS (Topical)				
BDBA802	Institutions, Firms, and Collectives	2.00	BMGT808J	Major in IS (Topical)				
BDBA803	Quality Transparency and the Value of Information	2.00	BMGT808K	Major in IS (Topical)				
BDBA804	Research in Strategy and IS I	2.00	BMGT808V	Major in IS (Topical)				
BDBA805	Research in Strategy and IS II	2.00	BMGT808W	Major in IS (Topical)				
BDBA806	Information Systems Economics I	2.00	BMGT808D	Major in IS (Topical)				
BDBA807	Information Systems Economics II	2.00	BMGT808E	Major in IS (Topical)				
BDBA808(A-Z)	Special Topics in DBA in Information Systems	1-4		Major in IS (Topical)				
BDBA821	Data Science Research Seminar	2.00	BMGT808Q	Major in IS (Topical)				
BDBA702	Decision Analytics	2.00	BUDT732	Practice Focused Elective				
BDBA708(A-Z)	Special Topics in DBA in Information Systems	1-4	See Notes	Research Tools & Method Topics	BUDT758B Big Data and Artificial Intelligence in Business, BUDT758I Applied Finance Information Systems, BUDT758M			
BDBA620	Data Models and Decisions	2.00	BUSI630	Research Tools & Method Topics				This course is typically offered as BUDT758Q for 3 credits for MSIS students. It will get a new number but will likely still be 3 credits.
BDBA621	Managerial Economics and Public Policy	2.00	BUSI681	Research Tools & Method Topics				
BDBA720	Data Mining and Predictive Analysis	2.00	BUDT733	Research Tools & Method Topics				
BDBA820	Applied Microeconomics for Business	3.00	BMGT808G	Research Tools & Methodologies		This course covers research methods from economics that have proved to be useful in business disciplines. Students will develop an understanding of how		
BDBA830	Applied Multivariate Analysis	2.00	BMGT837					
BDBA608	Special Topics in DBA in Information Systems	1-4						

Course #	Course Title	Course Credits	Cross-Referenced to	Meets Requirements Notes	Course content:	New Number	Notes
BDBA750	Innovation and Product Management	2.00	BUSM706	Major in MKT** (Topics)			
BDBA751	Integrated Brand Management	2.00	BUSM714	Major in MKT** (Topics)			BUSM714 is titled Market Forecasting
BDBA752	Market-Based Management	3.00	BUMK758B	Research Tools & Methodologies			BUMK758B has been changed to BUMK757 but the title is Marketing Strategy
BDBA753	Consumer Analysis	3.00	BUMK758D	Research Tools & Methodologies			BUMK758D has been changed to BUMK720 but is titled Marketing Strategy and is only 2 credits. There is a 2 credit BUMK715 that is titled Consumer Behavior.
BDBA754	Statistical Programming	3.00	BUMK758E	Research Tools & Methodologies		BUMK726	
BDBA755	Marketing Research & Analysis	3.00	BUMK758L	Research Tools & Methodologies		BUMK744	
BDBA756	Advanced Marketing Analytics	3.00	BUMK758K	Major in MKT* (Topics)		BUMK742	
BDBA757	Data Science	3.00	BUMK758W	Major in MKT* (Topics)		BUMK746	
BDBA758	Special Topics in DBA in MKT	1-4		Practice Focused Electives	BUSM758I Digital Marketing and Web Analytics, BUMK758J Pricing Analytics and Strategies, BUMK758A Market Forecasting		
BDBA829	Capstone	6.00		Capstone			
BDBA850	Seminar in Marketing Strategy	2.00	BMGT858L	Major in MKT (Topics)			
BDBA851	Seminar in Consumer Behavior	3.00	BMGT858C	Major in MKT (Topics)			
BDBA852	Seminar in Marketing Models	3.00	BMGT858P	Major in MKT (Topics)			
BDBA853	Seminar in Structural Models	2.00	BMGT858J	Major in MKT* (Topics)			
BDBA854	Seminar in Analytical Models	2.00	BMGT858G	Major in MKT* (Topics)			
BDBA855	Seminar in MCMC Estimation	2.00	BMGT858W	Major in MKT* (Topics)			
BDBA856	Experimental Design	2.00	BMGT858E	Major in MKT** (Topics)			
BDBA857 (A-Z)	Special topics in DBA in MKT (CB)						
BDBA858(A-Z)	Special topics in DBA in MKT (Quant)	1-4		Major in MKT (Topics)			

Course #	Course Title	Course Credits	Cross-Referenced to	Meets Requirements? Notes	Course content:	New Number	Notes
BDBA829	Capstone	6.00		Capstone			
BDBA644	Financial Management	2.00	BUFN610	Major			
BDBA645	Advanced Capital Markets	2.00	BUFN741	Major			
BDBA646	Valuation in Corporate Finance	2.00	BUFN750	Major		BUFN630	
BDBA647	Derivative Securities	2.00	BUFN660	Major			
BDBA840	Seminar in Financial Theory	3.00	BMGT840	Major			
BDBA848(A-Z)	Special topics in DBA in FIN	1-4		Major in MKT (Topics)			
BDBA740	Applied Equity Analysis	2.00	BUFN760	Major*		BUFN730	
BDBA741	Fixed Income Analysis	2.00	BUFN762	Major*		BUFN732	
BDBA742	Portfolio Management	2.00	BUFN763	Major*		BUFN734	
BDBA743	International Investment	2.00	BUFN770	Major*		BUFN721	
BDBA843	Seminar in Asset Pricing	3.00	BMGT843	Major*			
BDBA744	Financial Strategy for Corporation	2.00	BUFN710	Major**			
BDBA745	Corporate Governance and Performance	2.00	BUFN714	Major**			
BDBA746	International Corporate and Project Finance	2.00	BUFN771	Major**		BUFN723	
BDBA841	Seminar in Corporate Finance	3.00	BMGT841	Major**			
BDBA842	Topics in Empirical Corporate Finance	3.00	BMGT84C	Major**			
BDBA747 (A-Z)	Special Topics in DBA in FIN Asset Management Track			Practice Focused Electives	BUFN783 Fixed Income Derivatives, BUFN786 Financial Engineering	BUFN744/BUFN742	Fixed Income Derivatives is now BUFN744, Financial Engineering is now BUFN742
BDBA748 (A-Z)	Special Topics in DBA in FIN Corporate Finance Track	1-4		Practice Focused Electives	BUFN735 Financial Strategy for Corporations, BUFN732 Financial Restructuring, BUFN754 Corporate Risk Management, BUFN755	BUFN710/BUFN712	Financial Strategy for Corporations is now BUFN710, Financial Restructuring is now BUFN7
BDBA640	Financial Econometrics I	2.00	BUFN640	Research Tools & Methods			
BDBA641	Financial Econometrics II	2.00	BUFN650	Research Tools & Methods			
BDBA642	Financial Mathematics	2.00	BUFN670	Research Tools & Methods			
BDBA643	Financial Programming	2.00	BUFN758E	Research Tools & Methods		BUFN745	

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Course #	Course Title	Course Credits	Cross-Referenced to	Meets Requirements?		Notes	Course content:
BDBA620	Data Models and Decisions	2.00	BUSI630	Research Tools & Methodologies	IS		
BDBA621	Managerial Economics and Public Policy	2.00	BUSI681	Research Tools & Methodologies	IS		
BDBA720	Data Mining and Predictive Analysis	2.00	BUDT733	Research Tools & Methodologies	IS		
BDBA820	Applied Microeconomics for Business	3.00	BMGT808G	Research Tools & Methodologies	IS		This course covers research methods from economics that have proved to be useful in business disciplines. Students will develop an understanding of how equilibrium
BDBA821	Data Science Research Seminar	2.00	BMGT808Q	Major in IS (Topical)	IS		
BDBA830	Applied Multivariate Analysis	3.00	BMGT837	Research Tools & Methodologies	IS		
BDBA829	Capstone Project	6.00		Capstone			

Finance (FIN)

Major Courses = required 18 credits

Course Number	Course Title
BMGT840	Seminar in Financial Theory
BMGT841	Seminar in Corporate Finance
BMGT843	Seminar in Portfolio Theory
BMGT848A	Financial Research Methods
BMGT848B	Financial Research Methods
BMGT848E	Financial Econometrics
BMGT848K	Seminar in Public Policy Perspectives of Finance
BMGT848M	Seminar in Market Microstructure

Research Methods = 4 courses or 12 credits

Course Number	Course Title
ECON603	Microeconomics I
ECON604	Microeconomics II
ECON623	Econometrics I
ECON624	Econometrics II
ECON624	Econometrics II

Secondary Minor = 12 credits

Students will successfully complete 4 courses with a common theme/sequence. This theme should directly relate to their research and dissertation work.

Required Workshops

Course Number	Course Title
BMGT848F	Workshop in Finance Research
BMGT848R	Workshop in Finance Research

Students are required to take this course for each semester. In situations where a student cannot register for the course due to the 10 credit max. limit, then the student not have to register for the course that semester. However, they are still expected to attend.
These courses are intended for student presentation, guest speakers, and brown bag seminars.

Information Systems (IS)

Major Courses = required 18 credits

Course Number	Course Title
BMGT808G	Applied Microeconomics
BMGT808I	Individuals, Teams and Communities
BMGT808J	Institutions, Firms, and Collectives
BMGT808O	Opportunities at Disciplinary Interfaces
BMGT808P	Quality Transparency and the Value of Information
BMGT808V	Research in Strategy and Information Systems I
BMGT808W	Research in Strategy and Information Systems II

Research Methods = 4 courses or 12 credits

Course Number	Course Title
AREC623	Applied Econometrics I
AREC624	Applied Econometrics II
BMGT808D	Information Systems Economics I
BMGT808E	Information Systems Economics II

Secondary Minor = 12 credits

Students will successfully complete 4 courses with a common theme/sequence. This theme should directly relate to their research and dissertation work.

Required Workshops

Course Number	Course Title
BMGT808R	Research Seminar in Decisions, Operations & Information Technologies

Students are required to take this course for each semester. In situations where a student cannot register for the course due to the 10 credit max. limit, then the student not have to register for the course that semester. However, they are still expected to attend. These courses are intended for the DO&IT speaker series hosted by the dept.

Marketing (MKT)

Major Courses = required 18 credits

Course Number	Course Title
BMGT858A**	Analytical Models
BMGT858C	Consumer Behavior
BMGT858D*	Behavioral Decision Research
BMGT858E*	Research Design and Experimental Methods
BMGT858I*	Information Processing
BMGT858J**	Structural Models
BMGT858L	Marketing Strategy
BMGT858M**	Seminar in Mobile Marketing
BMGT858P	Marketing Models
BMGT858W**	Marketing Models with MCMC

* Required only for Consumer Behavior focus.
**Required only for Quantitative focus.

Research Methods = 4 courses or 12 credits

Course Number	Course Title
sequence. Then choose 2 more follow up methods courses to count	
PSYC601	Quantitative Methods I
PSYC602	Quantitative Methods II
OR	
EDMS646	Quantitative Research Methods II
EDMS651	Applied Multiple Regression Analysis
Quantitative sequence: must take Microeconomic sequence,	
ECON603	Microeconomic Analysis I
ECON604	Microeconomic Analysis II
ECON623	Econometrics I
ECON624	Econometrics II
OR	
AREC623	Applied Econometrics I
AREC624	Applied Econometrics II

Secondary Minor = 12 credits

Students will successfully complete 4 courses with a common theme/sequence. This theme should directly relate to their research and dissertation work.

Required Workshops

Course Number	Course Title
BMGT858R	Marketing Research Seminar

Students are required to take this course for each semester. In situations where a student cannot register for the course due to the 10 credit max. limit, then the student not have to register for the course that semester. However, they are still expected to attend.
These courses are intended for student presentation, guest speakers, and brown bag seminars.

Finance (FIN)

Major Courses = 20-22 credits	
Course Number	Course Title
BDBA644	Financial Management
BDBA645	Advanced Capital Markets
BDBA646	Valuation in Corporate Finance
BDBA647	Derivative Securities
BDBA840	Seminar in Financial Theory
BDBA848(A-Z)	Special topics in DBA in FIN
BDBA740	Applied Equity Analysis
BDBA741	Fixed Income Analysis
BDBA742	Portfolio Management
BDBA743	International Investment
BDBA843	Seminar in Asset Pricing
BDBA744	Financial Strategy for Corporation
BDBA745	Corporate Governance and Performance
BDBA746	International Corporate and Project Finance
BDBA841	Seminar in Corporate Finance
BDBA842	Topics in Empirical Corporate Finance

Research Tools & Methodologies = 9-12 credits	
Course Number	Course Title
BDBA640	Financial Econometrics I
BDBA641	Financial Econometrics II
BDBA642	Financial Mathematics
BDBA643	Financial Programming

Practice Focused Electives = 9-12 credits	
Course Number	Course Title
BDBA747 (A-Z)	Special Topics in DBA in FIN Asset Management Track
BDBA748 (A-Z)	Special Topics in DBA in FIN Corporate Finance Track

Capstone Project = 12 credits (min)	
Course Number	Course Title
BDBA829	Capstone Project

Information Systems (IS)

Major Courses = 20-22 credits	
Course Number	Course Title
BDBA600	Strategic and Transformational IT
BDBA601	Managing Digital Business Markets
BDBA701	Project Management in Dynamic Environments
BDBA801	Research Methods in Information Systems
BDBA802	Institutions, Firms, and Collectives
BDBA803	Quality Transparency and the Value of Information
BDBA804	Research in Strategy and IS I
BDBA805	Research in Strategy and IS II
BDBA806	Information Systems Economics I
BDBA807	Information Systems Economics II
BDBA808(A-Z)	Special Topics in DBA in Information Systems
BDBA821	Data Science Research Seminar
Two tracks: Asset Management and Corporate Finance	

Research Tools & Methodologies = 9-12 credits	
Course Number	Course Title
BDBA620	Data Models and Decisions
BDBA621	Managerial Economics and Public Policy
BDBA720	Data Mining and Predictive Analysis
BDBA820	Applied Microeconomics for Business
BDBA830	Applied Multivariate Analysis

Practice Focused Electives = 9-12 credits	
Course Number	Course Title
BDBA702	Decision Analytics
BDBA708*	Special Topics in DBA in Information Systems

Capstone Project = 12 credits (min)	
Course Number	Course Title
BDBA829	Capstone Project

Marketing (MKT)

Major Courses = 20-22 credits	
Course Number	Course Title
BDBA850	Seminar in Marketing Strategy
BDBA851	Seminar in Consumer Behavior
BDBA852	Seminar in Marketing Models
BDBA858(A-Z)	Special topics in DBA in MKT (Quant)
BDBA756	Advanced Marketing Analytics
BDBA757	Data Science
BDBA853	Seminar in Structural Models
BDBA854	Seminar in Analytical Models
BDBA855	Seminar in MCMC Estimation
BDBA750	Innovation and Product Management
BDBA751	Integrated Brand Management
BDBA856	Experimental Design
Two tracks: Quantitative and Consumer Behavior	

Research Tools & Methodologies = 9-12 credits	
BDBA752	Market-Based Management
BDBA753	Consumer Analysis
BDBA754	Statistical Programming
BDBA755	Marketing Research & Analysis

Practice Focused Electives = 9-12 credits	
Course Number	Course Title
BDBA758	Special Topics in DBA in MKT
BDBA857 (A-Z)	Special topics in DBA in MKT (CB)

Capstone Project = 12 credits (min)	
Course Number	Course Title
BDBA829	Capstone Project

LEARNING OUTCOME 1

Students will demonstrate a clear understanding of the research tools and methodologies for research investigation and analysis.

MEASURE: Students will be required to successfully pass the methodology courses for their program. Students will be assessed on their clear understanding of the application of statistical methods to quantitative data. Each course will assess students on their discussion of articles and case studies as well as their investigation and analysis on course projects.

CRITERION: At least 90% of students will receive a rating of "Satisfactory" or better from the Academic Director, who will review their performance in the classes. The Academic Director will meet with students rated below "Satisfactory" to help improve their performance or determine their continued participation in the program. A general rubric has been constructed to evaluate the following categories: 1) comprehensive knowledge and understanding of the related content area, 2) integrative understanding across content areas, 3) clear, logical, and convincing arguments with coherent flow and organization, and 4) proposed proper research methods (e.g. research design, setting, sample, measures, etc.). The DBA Faculty Coordinator will review main assignments and consult instructors to complete the rubric.

ASSESSMENT: Every Year, starting in the 2022-2023 academic year.

LEARNING OUTCOME 2

Students will demonstrate a clear understanding of foundational topics and analysis techniques.

MEASURE: Students will be required to successfully pass the major courses for their program. They will be assessed on their understanding of theoretical framework and perspective and encouraged to apply the theoretical frameworks to their own research ideas. Each course will assess students on their exams, discussion of articles and case studies as well as their projects (i.e., literature reviews and papers conceptualizing research ideas).

CRITERION: At least 90% of students will receive a rating of "Satisfactory" or better from the Academic Director, who will review their performance in the classes. The Academic Director will meet with students rated below "Satisfactory" to help improve their performance or determine their continued participation in the program. A general rubric has been constructed to evaluate the following categories: 1) comprehensive knowledge and understanding of the related content area, 2) integrative understanding across content areas, and 3) clear, logical, and convincing arguments with coherent flow and organization. The DBA Faculty Coordinator will review main assignments and consult instructors to complete the rubric.

ASSESSMENT: Every Year, starting in the 2022-2023 academic year.

LEARNING OUTCOME 3

Students will demonstrate a clear understanding of practice-focused analytical skills applied to business problems.

MEASURE: Students will demonstrate their comprehension of analyzing real-world topics and issues to present quality practical implications. Additionally, students will demonstrate appropriate knowledge of the legal and ethical issues related to big data management, privacy preservation, marketing research, financial management and an understanding of the role of all stakeholders when capital allocation decisions are made. Students will complete case studies and oral and written projects that specifically investigate real-world application.

CRITERION: At least 90% of students will receive a rating of "Satisfactory" or better from the Academic Director, who will review their performance in the classes. The Academic Director will meet with students rated below "Satisfactory" to help improve their performance or determine their continued participation in the program. A general rubric has been constructed to evaluate the following categories: 1) comprehensive knowledge and understanding of the related content area, 2) integrative understanding across content areas, 3) clear, logical, and convincing arguments with coherent flow and organization, and 4) present clearly the theoretical and practical implications. The DBA Faculty Coordinator will review main assignments and consult instructors to complete the rubric.

ASSESSMENT: Every Year, starting in the 2022-2023 academic year.

LEARNING OUTCOME 4

Students will demonstrate their ability to apply foundational theories and quantitative research methods and practice-oriented skills to a business research problem.

MEASURE: Students will be required to pass their Capstone Research Project Proposal and Final Presentation of their Project.

CRITERION: The Capstone Doctoral Research Project committee will evaluate the student's proposal and project. Students must obtain a "pass" in the Capstone Doctoral Research Proposal and Final Project Presentation. A rubric has been constructed for the committee to evaluate the student's proposal and final project. The rubric will assess defining the problem, literature review, methodology, results and their implications, with a specific focus on solving the managerial problems. (). For the final project, there will be an additional assessment which will determine if the student addressed the committee's recommendations from the proposal stage.

ASSESSMENT: Once course work has been completed, which is typically, the student's second or third year of the program.

DATE: February 25, 2020

TO: Justina Blanco

Assistant Director of Smith Doctoral Programs

The Robert H. Smith School of Business

FROM: On behalf of the University of Maryland Libraries:

Zaida M. Díaz, Business and Economics Librarian

Maggie Saponaro, Director of Collection Development Strategies

Daniel Mack, Associate Dean, Collection Strategies & Services

RE: Library Collection Assessment

We are providing this assessment in response to a proposal by the PhD Program Office in The Robert H. Smith School of Business to "re-launch" a Doctorate of Business Administration (DBA). The Smith PhD Program Office asked that we at the University of Maryland Libraries assess our collection resources to determine how well the Libraries support the curriculum of this proposed new program.

Serial Publications

Since the program aims at targeting practical and applied research, and to keep up to date with all the latest developments to support students, faculty and researchers, the UMD Libraries have compiled a list of the top academic journals in business. Most likely course assignments will rely upon online journals containing the latest cutting-edge research in a wide-range of areas relevant to the DBA Program.

The University of Maryland Libraries currently subscribe to a large number of scholarly journals—almost all in online format. Many of these are top ranked journals by the **Journal Citation Reports*, in terms of research impact and are widely recognized in the fields of information systems and business analytics, marketing analytics, finance, and/or financial market regulation or financial operations.

*Note: Journal Citation Reports is a tool for evaluating scholarly journals. It computes these evaluations from the relative number of citations compiled in the Science Citation Index and Social Sciences Citation Index database tools.

In cases in which the Libraries do not subscribe to highly ranked journals or any other articles in journals that we do not own, they likely will be available through our Interlibrary Loan/Document Delivery Services.

Top Academic Journals in Business

Here is a current (2020) listing of the field's top journals, most of which are relevant to the Smith DBA Program. This list includes 50 titles from the *Financial Times* research ranking for business schools. The list includes the source and/or database name where it can be located.

- *Academy of Management Journal* (via *Business Source Complete*)
- *Academy of Management Review* (via *Business Source Complete*)

- *Accounting, Organizations and Society* (via *ScienceDirect Journals*)
- *Accounting Review* (via *Business Source Complete*)
- *Administrative Science Quarterly* (via *Sage Journals*)
- *American Economic Review* (via *American Economic Association* and *JSTOR*)
- *Contemporary Accounting Research* (via *Wiley Journals*)
- *Econometrica* (via *Wiley Journals*)
- *Entrepreneurship Theory and Practice* (via *Sage Journals*)
- *Harvard Business Review* (via *Business Source Complete*)
- *Human Relations* (via *Sage Journals*)
- *Human Resource Management* (via *Wiley Journals*)
- *Information Systems Research* (via *INFORMS PubOnLine*)
- *Journal of Accounting and Economics* (via *ScienceDirect Journals*)
- *Journal of Accounting Research* (via *Wiley Journals*)
- *Journal of Applied Psychology* (via *Business Source Complete*)
- *Journal of Business Ethics* (via *Springer Online Journals*)
- *Journal of Business Venturing* (via *ScienceDirect*)
- *Journal of Consumer Psychology* (via *Wiley Journals*)
- *Journal of Consumer Research* (via *Business Source Complete*)
- *Journal of Finance* (via *Wiley Journals*)
- *Journal of Financial and Quantitative Analysis* (via *Business Source Complete* and *Cambridge Core* online)
- *Journal of Financial Economics* (via *ScienceDirect*)
- *Journal of International Business Studies* (via *SpringerLink*)
- *Journal of Management* (via *Sage Journals*)
- *Journal of Management Information Systems* (via *Taylor & Francis*)
- *Journal of Management Studies* (via *Wiley Journals*)
- *Journal of Marketing* (via *Business Source Complete*)
- *Journal of Marketing Research* (via *Business Source Complete*)
- *Journal of Operations Management* (via *Wiley Journals*)
- *Journal of Political Economy* (via *Business Source Complete*, *University of Chicago Press Journals*)
- *Journal of the Academy of Marketing Science* (via *SpringerLink*)
- *Management Science* (via *INFORMS PubOnLine*)
- *Manufacturing and Service Operations Management* (via *INFORMS PubOnLine*)
- *Marketing Science* (via *INFORMS PubOnLine*)
- *MIS Quarterly* (via *Business Source Complete*)
- *MIT Sloan Management Review* (via *Business Source Complete*)
- *Operations Research* (via *INFORMS PubOnLine*)
- *Organization Science* (via *INFORMS PubOnLine*)
- *Organization Studies* (via *Sage Journals*)
- *Organizational Behavior and Human Decision Processes* (via *ScienceDirect*)

- *Production and Operations Management* (via *Wiley Journals*)
- *Quarterly Journal of Economics* (via *Business Source Complete*, *Oxford Journals*)
- *Research Policy* (via *ScienceDirect*)
- *Review of Accounting Studies* (via *SpringerLink*)
- *Review of Economic Studies* (via *Business Source Complete*, *Oxford Journals*)
- *Review of Finance* (via *Business Source Complete*)
- *Review of Financial Studies* (via *Business Source Complete*, *Oxford Journals*)
- *Strategic Entrepreneurship Journal* (via *Wiley Journals*)
- *Strategic Management Journal* (via *Wiley Journals*)

Databases

The Libraries' *Database Finder* (http://www.lib.umd.edu/dbfinder) provides indexing and access to scholarly journal articles and other information sources. Furthermore, faculty and students have access to the *Virtual Business Information Center* (VBIC) https://www.lib.umd.edu/vbic, a business and economics resource portal that provides exclusive access to databases and/or datasets that the Smith School of Business subscribes to, in addition to those databases that the Libraries subscribe. Many of these databases cover subject areas that would be relevant to the DBA proposed program, and highly useful to the DBA capstone project that "centers around a practical problem from the business world that is considered as relevant from both sides, business managers and scholars". To highlight some databases that would be useful for the DBA Program- areas, beyond *Bloomberg*, *SDC Platinum* (software), *Thomson Reuters Eikon*, *Wharton Research Data Services* (WRDS), and many others, there are:

- *Business Source Complete* (EBSCO) – Comprehensive database of business sources, includes over 3600 peer reviewed journals, trade publications, magazines, books, case studies, company profiles, SWOT analysis, etc. It provides full-text access to the Harvard Business Review, McKinsey Quarterly, and thousands of trade publications, and peer-reviewed journals covering topics such as: management, economics, finance, accounting and international business, as well as indexing and abstracts for business journals dating back to 1886. Country economic reports from the EIU, WEFA, ICON Group and CountryWatch are also included.
- *Dissertations & Theses Global* (Proquest) – This database is the authoritative source for information about doctoral dissertations and master's theses. The database represents the work of authors from over 1,000 graduate schools and universities. Full text is available from 1997 to the present. It also contains a significant amount of new international dissertations and theses both in citations and in full text. It offers access to more than 90 percent of the doctoral dissertations accepted each year in North America. The database also covers thousands of dissertations and theses from around the globe. Time Span:1861 to present
- *EconLit* (American Economic Association) – Comprehensive database of economics sources, includes subject indexing and abstracts of economics journals and books, dissertations, and working papers from 1969 forward. Topics include economic theory and history, monetary theory and financial institutions, labor economics, international, regional and urban economics.
- *Foreign Dissertations Database* (CRL)– Provides access to approximately 20,000 foreign doctoral dissertations (dissertations from universities outside the U.S. and Canada) in North American research libraries. Note that no new records are being added to this database. To view

or search current dissertations, please access the CRL catalog. Coverage: Encompasses nearly all areas of study. Time Span: ca.1766 – present.

- *Passport* (Euromonitor: formerly GMID) – International market data for hundreds of products in nearly 50 countries. Covers consumer markets, including apparel, food & drink, consumer electronics, and travel & leisure. Data is excellent and offers detailed Euromonitor reports on consumer markets and trends, consumer companies, brand and market share by company and product.
- *Factiva* (Dow Jones) – Provides access to great deal of business news content covering industries, companies, and general business. Includes full text of the *Wall Street Journal*, *BusinessWeek*, *Dow Jones Newswires*, *Reuters Newswires*, and other major business news publications, as well as full text of many online sources, such as the WSJ online, business blogs, and company blogs. It provides international coverage, including most major world news publications. It is an excellent source for learning more about emerging Social Media companies through its full text searching. With the Factiva News Pages, you can glance at key stories from leading newspapers, including the *Wall Street Journal*, *New York Times*, *Washington Post*, etc. Some content displayed in Factiva is only available via other databases per licensing restrictions.
- *Foundation Directory Online (FDO)* – The leading resource in the world of philanthropy. It provides everything about U.S. foundations and their millions of grants around the world. Search up to nine databases at once — grant-makers, companies, grants, 990s, RFPs, philanthropy news, foundation-sponsored publications, nonprofit literature, and jobs. Includes descriptions of more than 100,000 Community Foundations; Corporate Giving Programs, Operating Foundations, Private Grantmaking Foundations (independent and company-sponsored foundations), and Grantmaking Public Charities.
- *IBISWorld* (IBISWorld) – Provides comprehensive industry market research reports and analysis on U.S., China and Global Industries; U.S. Risk Ratings, and U.S. Business Environment Profiles. Analysis of growth trends, influencing factors, competitive environment, and key issues facing industries, including information on key personnel and financials for leading publicly traded companies. Includes access to IBIS industry Risk Ratings reports. Archival reports are available for each industry with some back to 2001.
- *IEEE Xplore* (IEEE)– Provides full-text access to IEEE transactions, journals, magazines and conference proceedings published since 1988 and all current IEEE Standards. Includes access to Bell Labs Technical journal Archive (BLTJA) 1922-2015. Among topics covered are: computer engineering, biomedical technology and telecommunications, electric power, aerospace and consumer electronics, among many others.
- *Mergent Intellect* (Mergent/Dun) – Provides access to private and public U.S and international business data, company annual reports, industry news, reports, ratios, facts and figures, executive contact information, and industry profiles. Includes information from Hoover's and Dun & Bradstreet.
- *Mergent Online* (FTSE Russell) – Current and historical (past 15 years) firm descriptions, statistics, financial information, annual reports, mergers, acquisitions, disposals, joint ventures, long-term debt, bond ratings, capital stock, insider trading and supply chain for US and foreign companies. Also includes access to *Investext* analyst reports - use tab on the far right upon entering the resource.

- *Mintel Oxygen* (Mintel Group) – Consumer research reports covering the US and European marketplace. Each report combines data and analysis of the competitive landscape, market-share analysis, consumer profiles, and demographics. Reports include results of consumer product surveys, graphs and charts. Provides full-text reports on a wide range of market research studies, analyzing market sizes and trends, market segmentation, consumer attitudes and purchasing habits, opportunities, weaknesses and the future of the market.
- *Nexis Uni* (Lexis Nexis; formerly LexisNexis Academic) – Full-text access to over 15,000 sources of news, business, legal, and reference information, including hundreds of U.S. and foreign newspapers, legal and business publications, wire services, broadcast media transcripts, and trade/news magazines.
- *PolicyMap* (PolicyMap) – An online (no software installation needed) US national data and mapping tool and analytics platform with varied applications.
- *Science Direct* (Elsevier) – It is an international leading source for scientific, technical, and medical research. It is a peer-reviewed, full text database containing e-books and online journal titles covering the fields of business, computing, economics, science, technology, health and life sciences.
- *Simply Analytics* (formerly: SimplyMap) – Simply Analytics is a web-based mapping application that allows you to create thematic maps and reports using demographic, business and marketing data. Data can be downloaded for use with other software such as Excel and GIS.

Also the following general/multidisciplinary databases: *Academic Search Ultimate, MasterFILE Premier, JSTOR*, *ProjectMUSE, HathiTrust* are good sources of articles relevant to the DBA Program.

In many, and likely in most cases, these indexes offer full text copies of the relevant journal articles. In those instances in which the journal articles are available only in print format, the Libraries can make copies available to students and faculty through the Libraries' Interlibrary Loan service (https://www.lib.umd.edu/access/ill-article-request). (For specific details, see below the Interlibrary Loan Services section.)

Monographs

The Libraries regularly acquire scholarly monographs in all areas of business, and allied subject disciplines. Monographs not already part of the collection can usually be added upon request.

Even though most library research for this program likely will rely upon online journal articles, students may wish to supplement this research with monographs. Fortunately, more and more monographs are available as individual e-books or through online collection packages, among them:

- *EBSCO eBook Collection* – A collection of e-texts covering topics in computer science, business, international relations, education, environmental science, psychology, and civil rights law and history.
- *Gale Virtual Reference Library* – Offers more than 85 reference sources including encyclopedias, almanacs, series and more. Provides access to more than 300 encyclopedias and selected industry-standard reference series. Including content from SAGE Reference, John

Wiley & Sons, Cambridge University Press, Berkshire Publishing Group, Cartographica, Linworth and Gale imprints.

- *Historical Encyclopedia of American Business* (through Gale) – Covers the full breadth of American business history. Includes overviews on different sectors of the economy, individual industries, significant economic events, and general topics such as business cycles. labor strikes and outsourcing. There are also overviews on broad legal topics such as antitrust legislation, bankruptcy laws and patent laws. Also offers brief biographies of individual persons who have played exceptional roles in American business as well as information about individual companies, corporations, labor unions, and government agencies.
- *IEEE/Wiley eBooks* – The collection of titles includes practical handbooks, introductory and advanced texts, reference works and professional books with an emphasis on leading areas of research, such as Aerospace; Bioengineering; Communication, Networking & Broadcasting; Components, Circuits, Devices & Systems; Computing & Processing (Includes Hardware & Software); Engineered Materials, Dielectrics & Plasmas; Fields, Waves & Electromagnetics; General Topics for Engineers (Math, Science & Engineering); Geoscience; Photonics & Electro-Optics; Power, Energy & Industry Applications; Robotics & Control Systems; Signal Processing and Analysis.
- *OECD iLibrary* – The online library of the Organization for Economic Co-operation and Development. Comprises 20 book collections by theme, containing all OECD monographs and reports, most OECD periodicals, and the OECD statistical databases. NOTE: Even though current access to the database ended on August 31, 2018, since we have perpetual access rights to OECD, there will be content available, covering 1998-2018.
- *Project Muse/UPCC Ebooks* – Full-text access to thousands of books published by major university presses.
- *ProQuest Ebook Central* – Ebrary is a collection of thousands of online full text books and other materials in a variety of subject areas. In order to view, copy, or print you will need to install the ebrary Reader software.
- *SAGE Reference Collection* – Online versions of published reference works from SAGE. A great place to begin your research.
- *Sage Research Methods* (or Sage Research Methods Online or SRMO or SRM Research Methods Online) – SRMO is a large collection of books, reference books, videos, and datasets on social science research methods. It includes a methods map, project planning tool, and the notable "little green book" series (Quantitative Applications in the Social Sciences) and the "little blue book" series (Qualitative Research Methods) in full text. SRMO also includes the Practical Skills & Academic Research video collection of 440 streaming videos specifically on social science research skills. This collection covers key areas such as writing a research proposal, planning and designing a research project, and securing ethical approval are explicitly covered. Practical skills such as project management, writing for publication, presenting work, and building networks are also presented.
- *Springer Complete eBook Collection* – Springer provides online full-text access to thousands of English, French, Italian, and Spanish books in the arts, sciences, law, mathematics, medicine, computing, and other disciplines. Most books are from 1996 to the present, and include Apress,

Birkhauser, Copernicus Books, Humana Press, Physica – Verlag, Plenum US, Springer, Springer – Verlag, Steinkopff, and TELOS imprints.

- *World Scientific eBooks* – Titles in the collection span a wide variety of subjects: Mathematics, Physics/Nonlinear Science, Chemistry/Materials Science/Nanotechnology, Computer Science, Engineering, Environmental Science, Medicine and Healthcare, Life Sciences, Business and Economics, General and Popular Science, Social Sciences and Asian Studies.

Even in instances when the books are only available in print, students and faculty will be able to request specific chapters for online delivery through the Interlibrary Loan program (https://www.lib.umd.edu/access/ill-article-request).

A search of the University of Maryland Libraries' WorldCat UMD online catalog was conducted, using a variety of relevant subject terms, for example: marketing analytics and government or technology management and business (limited to the last 5 years in Libraries Worldwide), yielded a sizable list (34,690) of citations of books (mostly on e-book format) that we own, among them a sample of titles:

- *Business Intelligence Strategy and Big Data Analytics: A General Management Perspective* (e-book, 2016)
- *Big Data in Practice: How 45 Successful Companies Used Big Data Analytics to Deliver Extraordinary Results* (e-book, 2016)
- *Building A Business of Politics: The Rise of Political Consulting and the Transformation of American Democracy* (e-book, 2016)
- *Corporate Social Responsibility: Win-Win Propositions for Communities, Corporates and Agriculture* (e-book, 2018)
- *Manpower alternatives to enhance total force capabilities: could new forms of reserve service help alleviate military shortfalls?* (e-book, 2019)
- *Entrepreneurship and Firm Performance* (e-book, 2016)
- *The Aerospace Business: Management and Technology* (e-book 2020)
- *Knowledge Management and Risk Strategies* (2018)

A further search using the same search terms, revealed that the Libraries' membership in the Big Ten Academic Alliance (BTAA) dramatically focuses these holdings and citations at about 5,443 results in Big Ten Academic Alliance. As with our own materials, students can request that chapters be copied from these BTAA books if the books are not available electronically.

Interlibrary Loan Services

Interlibrary Loan services (https://www.lib.umd.edu/access/ill) provide online delivery of bibliographic materials that otherwise would not be available online. As a result, remote users who take online courses may find these services to be helpful. Interlibrary Loan services are available free of charge.

The article/chapter request service scans and delivers journal articles and book chapters within three business days of the request--provided that the items are available in print on the UM Libraries' shelves or in microform. In the event that the requested article or chapter is not available on campus, the request will be automatically forwarded to the Interlibrary Loan service (ILL). Interlibrary Loan is a service

that enables borrowers to obtain online articles and book chapters from materials not held in the University System of Maryland.

Please note that one limitation of these services that might create some challenges for the online student is that the Libraries are not allowed to make online copies of entire books. The only way that a student can get access to a print copy of an entire book is to physically come to the Libraries and check out that book.

Additional Materials and Resources

In addition to serials, monographs and databases available through the University Libraries, students in the proposed program will have access to a wide range of media, datasets, software, and technology. Media in a variety of formats that can be utilized both on-site and via ELMS course media is available at McKeldin Library. GIS Datasets are available through the GIS Data Repository (https://www.lib.umd.edu/gis/data-and-resources) while statistical consulting and additional research support is available through the Research Commons (http://www.lib.umd.edu/rc) and technology support and services are available through the Terrapin Learning Commons (http://www.lib.umd.edu/tlc).

The business and economics subject specialists: Zaida Díaz zdiaz@umd.edu and Lily Griner griner@umd.edu, also serve as an invaluable resource to programs such as the one proposed. Through departmental partnerships, subject specialists actively develop innovative services and materials that support the University's evolving academic programs and changing research interests. Subject specialists provide one-on-one research assistance online, in-person, or via the phone. They also provide information literacy instruction and can provide answers to questions regarding publishing, copyright and preserving digital works.

Other Research Collections

Because of the University's unique physical location near Washington D.C., Baltimore and Annapolis, University of Maryland students and faculty have access to some of the finest libraries, archives, major trade associations and/or societies, government organizations and research centers in the country that are vitally important for researchers in all areas of business, among them are the: Library of Congress, Bureau of Economic Analysis (BLS), U.S. Census Bureau (including the Business and Economic Census), Securities and Exchange Commission (SEC), World Bank/IMF, Federal Deposit Insurance Corporation (FDIC), Bureau of Economic and Business Affairs (EB), Office of Commercial and Business Affairs (CBA), United States Chamber of Commerce (USCC), Securities Investor Protection Corp., National Science Foundation [Centers of Research Excellence in Science and Technology (CREST) and HBCU Research Infrastructure for Science and Engineering (HBCU-RISE)], among many others.

Conclusion

With our substantial journals holdings and index databases, as well as additional support services and resources, the University of Maryland Libraries have a robust collection of resources to support teaching and learning the DBA Program. These materials are supplemented by a strong monograph collection.

Additionally, the Libraries Scan & Deliver and Interlibrary Loan services make materials that otherwise would not be available online, accessible to remote users in online courses. As a result, our assessment is that the University of Maryland Libraries are able to meet the curricular and research needs of the proposed Doctorate in Business Administration (DBA) Program at the Smith School of Business.

TABLE 1: RESOURCES

Resources Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1.Reallocated Funds		$ -	$ -	$ -	$ -
2. Tuition/Fee Revenue (c+g below)	$ 900,000	$ 1,800,000	$ 2,460,000	$ 2,460,000	$ 2,460,000
a. #FT Students	2	4	6	6	6
b. Annual Tuition/Fee Rate	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
c. Annual FT Revenue (a x b)	$ 100,000	$ 200,000	$ 300,000	$ 300,000	$ 300,000
d. # PT Students	16	32	48	48	48
e. Credit Hour Rate	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00
f. Annual Credit Hours	20	20	18	18	18
g. Total Part Time Revenue (d x e x f)	$ 800,000	$ 1,600,000	$ 2,160,000	$ 2,160,000	$ 2,160,000
3. Grants, Contracts, & Other External Sources	$ -	$ -	$ -	$ -	$ -
4. Other Sources	$ -	$ -	$ -	$ -	$ -
TOTAL (Add 1 - 4)	**$900,000**	**$1,800,000**	**$2,460,000**	**$2,460,000**	**$2,460,000**

Graduate

(FY2018)	annual	per credit hour
resident	$50,000.00	$ 2,500.00
non-resident	$50,000.00	$ 2,500.00

TABLE 2: EXPENDITURES

Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b+c below)	$252,700	$520,562	$1,072,358	$1,104,528	$1,137,664
a. #FTE*	1.0	2.0	4.0	4.0	4.0
b. Total Salary	$190,000	$391,400	$806,284	$830,473	$855,387
c. Total Benefits	$62,700	$129,162	$266,074	$274,056	$282,278
2. Admin. Staff (b+c below)	$93,100	$95,893	$197,540	$203,466	$209,570
a. #FTE	1.0	1.0	2.0	2.0	2.0
b. Total Salary	$70,000	$72,100	$148,526	$152,982	$157,571
c. Total Benefits	$23,100	$23,793	$49,014	$50,484	$51,999
3. Total Support Staff (b+c below)	$79,800	$82,194	$84,660	$87,200	$89,816
a. #FTE	1.0	1.0	1.0	1.0	1.0
b. Total Salary	$60,000	$61,800	$63,654	$65,564	$67,531
c. Total Benefits	$19,800	$20,394	$21,006	$21,636	$22,285
4. Equipment	$0	$0	$0	$0	$0
5. Library	$0	$0	$0	$0	$0
6. New or Renovated Space	$0	$0	$0	$0	$0
7. Other Expenses: Operational Expenses	$145,000	$280,000	$379,000	$379,000	$379,000
TOTAL (Add 1 - 7)	**$570,600**	**$978,649**	**$1,733,557**	**$1,774,194**	**$1,816,050**
resources - expenditures	$329,400	$821,351	$726,443	$685,806	$643,950

* 1 FTE is rouhgly equivalent to 4 x 3-credit courses

benefits	0.33
inflation	1.03

								Financials		Program Requirements		Type of Student:			Admissions Requirements					
School Name	DBA	PhD	Enrollment	Market	Coursework	How do you get	Remote	Cost billed	Financial	Course	Thesis?	Audience:	Part	Eligibility for	Application	Letters of	Transcripts	GMAT?	English	Notes:
Washington University in St. Louis, Olin Business School	DBA in Finance	Yes	15 Started with 4 in 2010. Only admit a few each year.	Part time students are those that are working professionals, which is the market for which the DBA program was designed for. They saw an increase in full-time requests from international students, who most likely did not get into PhD programs.	Required course work is from Masters program. 2 Specific courses for DBA - a direct reading (independent with faculty) and a Research Methods course. Some do take PHD courses, but are assessed on a case by case basis.	Part-time students primarily only take Masters courses (MS in Finance and MBA). They take the evening courses offered in this program. PhD courses are not adapted to accommodate part-time students of the DBA program. Full-time students can finish in 4 years and part-time students can finish in 5-6. Overall 7 year time limit.	None	$1810 per credit hour.	None (offers student loans or work study)	**48 credits** (26 required/22 elective), **24 research credits**	Yes	Aimed at those who are working in industry and may continue work during their enrollment in the DBA Program:"Practioners" - careers in corporations, consulting firms, or government agencies.	Both options	Yes	Yes - $?	3	Yes	Yes	Yes	Health Insurance Requirement

					Financials		Program Requirements		Type of Student:			Admissions Requirements					
School Name	DBA Offered	PhD Program	Enrollment	Entering each year	Cost billed to student	Financial Support	Course Requirements:	Thesis?	Audience:	Part Time/Full Time	Eligibility for International Paricipants?	Application/ Application fee	Letters of Recommendation	Transcripts	GMAT/ GRE	English Proficiency Requirement	Notes:
Washington University in St. Louis, Olin Business School	DBA in Finance	Yes	15	2-4	$1810 per credit hour.	None (offers student loans or work study)	**48 credits** (26 required/22 elective), **24 research credits**	Yes	Aimed at those who are working in industry and may continue work during their enrollment in the DBA Program:"Practioners" - careers in corporations, consulting firms, or government agencies.	Both options	Yes	Yes - $?	3	Yes	Yes	Yes	Health Insurance Requirement
Case Western Reserve University	Doctor of Management	Yes	57	20 students each year	$156,000 (3 years)	Eligibility for Nonprofit Fellowships	18 courses (3 years) plus workshops and deliverables	Yes	Practioners	Flexible - 30 hours of study per week plus periodic residencies		Yes - #100	2	Yes	No	?	Option to Pursue PhD in Management, Sustainable Systems (1 additional year) Requires 7 or 8 essays.Rolling admissions Simiar to an EMBA
Harvard	DBA: Acct &Mgmt, Mgmt, Mkt, Strategy, & Tech & OM	Yes: Business Economics, OB & Health Policy (Mgmt)	55	10-12 across 5 DBA programs	None - DBA and PhD treated the same	All receive funding from HBS ($40,200 per year up to 5 years)	Minimum of 13 semester long doctoral courses	Yes	No specificaiton of industry versus research.	Full time	Yes	Yes - $105	3	Yes	Yes	Yes	DBA and PhD are the same
Temple University	Executive DBA	Yes	80	25-30	$124,200 total	None	42 credits	Yes	Designed for professionals with extensive managerial experience. Investigate applied research problems.	Part time	Yes	Yes - $100	2	Yes	Optional	No	Current resume and 2 required essays
University of Florida	DBA	Yes	54	15-22	$108,159 (3 years)	Scholarships, Fellowships and Assistantships not available.	60 credits (3 year program total)	Yes	Designed for a small, select group of experienced executives in senior leadership positions who hold master's degree from an accredited U.S. univerity or its international equivalent and are committed to pursuing a formal, rigorous program as practioner-scholars.	Flexible - minimum time on campus	Yes	Yes - $?	2	Yes	Yes	Yes	
Georgia State University	Executive Doctor in Business	Yes	51	17-21	$117,500 (total)	None	Six semesters - 3 three hour courses per semester	Yes	Program participants are senior-level executives with years of experience in a variety of organizations.	Flexible - minimum time on campus	Yes	Yes - $100	0	Yes	No	No	"Lawful Presence" and essays required
University of South Florida	DBA	Yes	58	23, 35,30	$92,500	Gives $6000 for student research and travel expenses	52 credit hours + 20 credit hours of dissertation	Yes	Designed for working professionals.	Flexible - minimum time on campus	Yes	Yes	3	Yes	Optional	Yes	Requires the same core of research method courses that PhD students have to complete

669 Doctorate in Business Administration: Key Differences between Morgan State PhD in Business Administration vs Maryland Smith DBA

Introduction

The Maryland Smith Doctorate of Business Administration (Smith DBA) is a practitioner-oriented professional doctoral-level degree designed for senior executives and researchers in industry and government in which advanced research skills in analyzing business problems are required. The program is intended to provide theoretical knowledge in the business field, allowing professionals to showcase their expertise and contribute to senior-level management practices.

While the PhD in Business Administration at Morgan State University (Morgan PhD) offers a PhD in Business Administration, its intended focus, structure, and degree outcomes are significantly different from the Smith DBA. This document will highlight the significant differences between each program, bringing attention to the centered goals of the Morgan PhD and the Smith DBA.

Target Audience

The Morgan PhD targets individuals who are preparing for careers in academia, which include the areas of research, teaching, and consulting. Individuals looking to obtain the necessary credentials to teach at universities full-time. The Morgan PhD is structured around different aspects of exposure to university-level teaching, culminating with the completion of a dissertation that focuses on research furthering education leaders' understanding of a particular problem in business education.

The Smith DBA is a practitioner-oriented professional doctoral-level degree designed for senior executives and researchers in industry and government. The Smith DBA is intended to provide theoretical and practitioner knowledge in the business field, allowing professionals to showcase their expertise and contribute to senior-level management practices. The Smith DBA provides the necessary skills essential in advancing to leadership positions within business and financial organizations of global reach.

Career Aspirations

The Morgan PhD is focused on making contributions to scholarship, and thus is on a path to a career in academia. Their goal is to become an in-depth specialist in a functionalized area

through research, publishing in academic journals and teaching, which is necessary to become a faculty member at a research-oriented institution. The Morgan PhD strives to prepare themselves for tenure-track faculty positions at colleges and universities.

The DBA candidate is largely driven by the search for advanced personal challenge. Such individuals have already achieved great success in their professional careers and are looking to expand their practical knowledge beyond their business experience and/or advanced degrees. Due the emphasis on applied focus, the Smith DBA provides opportunity for students to not only identify, but also provide resolution to research challenges in business applications. The DBA candidate will remain a working professional throughout the program, and upon graduation, will continue in the business world in the areas of leadership, consulting, organizational innovation, and corporate policy making.

Program Requirements

Overview

The Morgan PhD curriculum is designed to provide graduates with in-depth exposure to a specific business content area, sophisticated analytical methods, and education techniques. This last feature is unique to the program and is structured around different aspects of exposure to university-level teaching. The Morgan PhD prepares graduates for careers in research, teaching, and consulting to be effective researchers and teachers at the university level. The Morgan PhD highlights the importance of teaching skills in their program development, as the courses are designed to guide students in understanding relevant issues associated with teaching.

The Smith DBA provides students with the understanding of practice-focused analytical skills necessary to confront the challenges global organizations face. DBA candidates will demonstrate a clear understanding of the research tools and methodologies for research in the areas of Information Systems, Marketing, and Finance concentrations. Additionally, students will demonstrate a clear understanding of practice-focused analytical skills applied to business problems.

Snapshot of Program Requirements

PROGRAM REQUIREMENTS		
	Morgan State PhD in Business Administration	**Maryland Smith Doctorate of Business Administration**

Coursework Requirements	Foundation: 21 credits; Area of Specialization: 18 credits, Minor Field: 9 credits, Dissertation: 12 credits	Major Field of Study: 20-22 credit, Research Tools & Methodologies: 9-12 credits, Practice-Focused Electives: 9-12, Capstone project: 12 credits (54 credits total minimum)
Examination Requirements	Students are required to take major/minor comprehensive examination to advance to candidacy, as well as complete an early research case study.	Smith DBA provides a three-phase evaluation each academic year based on GPA, capstone project progress, and coursework completion.
Teaching Requirements	Prior to graduation, a student must teach at least one course in his/her area of expertise, under the guidance of a faculty member. Must prepare a teaching portfolio	Teaching requirements are not relevant for the Smith DBA, as the program is focused on training students to combine research with concrete business problems.
Professional Development Requirement	Students must attend Professional Development Seminars, which provide information about university, program, professional of university research and teaching	The Smith DBA does not have a professional development requirement. Alternatively, Smith DBA will provide optional workshops.
Dissertation/Capstone	The Morgan PhD dissertation must address a major research issue. It is expected to result in a significant contribution to the received body of knowledge in the field of study and the student is expected to publish it.	The Smith DBA Capstone project is focused on the application of learned program knowledge to a real-life problem and the successful solution. The project is designed to develop and demonstrate research skills which the student will utilize and build upon in his/her post-DBA career.
Time Limits	Full-time students must enroll in 9-credits/minimum per semester and are required to complete the program within 7 years. Part-time students must complete the program within 8 years of entering.	Students can complete the program in three years. Part-time students may take an additional year for completion.

Coursework Requirements

The Morgan PhD is specifically designed to prepare graduates for careers in academic institutions, with a focus on academic research and teaching. To achieve this, students are required to complete elements of business operations, foundation, and minor field courses. These course requirements are intended to provide students with a broad knowledge of business operations, understanding of philosophy and tools of scientific inquiry, and provide a firm foundation in theory within business fields. The foundation courses place great emphasis on the development of student's research skills, particularly the quantitative and qualitative methods involved in research processes.

In contrast, the Smith DBA provides comprehensive knowledge of foundational concepts in information systems, marketing and finance, providing students with analytical skills, knowledge of legal & ethical issues related to big data management, behavioral theory and an understanding of regulatory structure. The Smith DBA requires coursework completion in methodologies and practice-focus, which leads to a capstone project that identifies a real-world business problem.

Examination Requirements

The Morgan PhD requires that all students must pass written and oral comprehensive exams in both the major and minor field. These exams start as early as students' first year in the program and continue until the third year of the program. Ultimately, these exams are conducted to determine if a student is fit for candidacy.

The Smith DBA does not require one specific examination. Rather, the program provides a three-phase evaluation each academic year in which progress will be evaluated and candidacy will be determined. The evaluation is based on GPA, coursework completion, and capstone project progress.

Teaching Requirements

The Morgan PhD stipulates a teaching requirement, which requires that prior to graduation, a student must teach at least one course in their area of expertise, under the guidance of a faculty member. This assignment will be determined by the department under which the student is studying and timing will be at the discretion of the department chair. Regardless of whether a student is supported by the university, they must complete this teaching requirement. Lastly, the Morgan PhD requires that students must also prepare a teaching portfolio, designed for prospective employers and containing a statement of teaching philosophy, syllabi, teaching material, and peer evaluations of the student's teaching.

In contrast, Smith DBA *does not* have a teaching requirement. The Smith DBA is focused on training students to combine applied research with concrete business problems. It is less focused on extending existing theories, and rather focuses on applying existing theories to explain specific problems, which typically arise in the companies in which students work. Finally, the Smith DBA will not require a teaching portfolio as their goal of their graduates is placement in industry.

Professional Development Requirements

Another specific program requirement for Morgan PhD focuses again on teaching as professional development. All first and second-year PhD students must attend Professional Development Seminars, which is a requirement for both full-time and part-time learners. The intention of the seminars is to provide students with information about the profession of university research and teaching.

Alternatively, Smith DBA will provide resources that allow students to investigate real-world issues to identify business best practices. The intrinsic value of the Smith DBA is the focus of formatting for industry, allowing students to demonstrate their readiness for senior-level leadership while completing the program. Through its practitioner approach towards assessing situational risks, understanding organizational issues, and implementing solutions into action, students acquire the advanced skills necessary to grow as a leader.

Dissertation versus Capstone Requirement

The Morgan PhD culminates with the completion of a dissertation that must address a major research issue. It is expected to result in a significant contribution to the received body of knowledge in the field of study and furthermore publish in a top field journal. Within 12 months of passing the comprehensive examination in the area of specialization, the Morgan PhD requires students to successfully defend their dissertation proposal.

Alternatively, the Smith DBA requires a capstone project, focused on the application of learned program knowledge to a real-life problem and a successful resolution. The project is designed to develop and demonstrate research skills which the student will utilize and build upon in their post-DBA career. Students will have a proposal as the first formal stage of the Capstone Project. The second stage is the final oral examination of the capstone project. Smith DBA students are required to defend their proposal in their third year, earlier in the semester than later. Upon successful defense, the students can continue their project towards completion of the capstone.

Program Time Limits

The Morgan PhD stipulates that full-time students must enroll in a minimum of 9-credit hours per semester and are required to complete the program within 7 years after entering it. For part-time students, the requirement is that students must complete the program within 8 years of entering.

The Smith DBA program is designed so that students can complete the program in three years. Students who are participating in the program on a part-time basis may take an additional year for completion. Students who are not able to continue in the program at the end of the second-year or due to failure to successfully defend the capstone project will be offered a terminal Master's degree in the discipline of their study.

Career Goals and Alumni Placements at Morgan State

Alumni of the Morgan PhD have secured positions at a variety of United States institutions across the country. Information on placement data of the Morgan PhD was gathered from Morgan State's website (see Table 1) and a public search on LinkedIn (see Table 2). It is evident that the goal of Morgan's PhD Program is to place graduates into academic positions focused primarily on teaching. From a placement inquiry made to Morgan State, it was confirmed that the PhD Program has a 98% placement rate of graduates into tenure-track positions. This statistic further exemplifies the manner to which the Morgan PhD prepares its graduates for careers in academia. In contrast to the Smith DBA where the focus is on practical application for industry with the goal of non-academic industry placements. At this time, this is all the information that we have been able to access.

Table 1

Morgan State University, PhD in Accounting Alumni Placements[1]			
Name	Specialization	Graduation[2]	School & Position
Cynthia Lloyd	Accounting	2010	Associate Professor of Accounting, Texas A&M University
Susan Muzorewa	Accounting	2012	Assistant Professor of Accounting, Delaware State University
Yu-Ho Chi	Accounting	2012	Associate Professor of Accounting, University of North Carolina at Pembroke
Candice Lynette Deal	Accounting	2013	Assistant Professor of Accounting, Eastern Connecticut State University
Cathalene Roger Bowler	Accounting	2013	Assistant Professor of Accounting, University of Northern Iowa
Issac Bonaparte	Accounting	2013	Assistant Professor of Accounting, Howard University
Henry Mburu	Accounting	2015	Lecturer, The Catholic University of America

Musab Ababneh	Accounting	2015	Assistant Professor of Accounting, Bowie State University
Delvin Seawright	Accounting	2015	Assistant Professor of Accounting, Lamar University
Ayishat Omar	Accounting	2018	Assistant Professor, Rowan University

1. **Table 1 - Provides placement data for alumni of Morgan State University's PhD in Accounting Program. Data is composed of graduates since 2010.**
2. **Source: Morgan State University Website - Alumni of Accounting PhD Program**

Table 2

Morgan State University, PhD in Business Administration[3]			
Specialization	Associate Professor	Assistant Professor	School[4]
Information Systems	1 (Grad Year: 2009)	2 (Grad Years: 2010, 2018)	University of the District of Columbia, Shenandoah University, University of the Virgin Islands
Marketing	1 (Grad Year: 2010)	4 (Grad Years: 2008, 2010, 2011)	Tennessee State University, Howard University, University of Baltimore
Finance	0	2 (Grad Years: 2015)	Gonzaga University, California State University

3. **Table 2 - Provides placement data for alumni of Morgan State University's PhD in Business Administration, with concentrations in Accounting, Information Systems, Marketing and Finance.**
4. **Source: Public Information obtained thru Linkedin**

As evidenced through their alumni placements in Table 1 and Table 2, the Morgan PhD Program is structured to provide exposure towards various aspects of university-level teaching. Its intention is to forge a path into academia, equipping graduates with the in-depth knowledge to become specialists in functionalized areas by means of research. In contrast, the Smith DBA is focused on providing theoretical knowledge in the business field, allowing professionals to showcase their expertise and contribute to senior-level management practices. Our target placements are not academic institutions, rather advancement in industry in the areas of leadership, consulting, organizational innovation, and corporate policy making.

UNIVERSITY OF MARYLAND
ROBERT H. SMITH SCHOOL OF BUSINESS

Industry Analysis for DBA Specializations

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Pages 2-54 were obtained from the Bureau of Labor Statistics: Occupational Outlook Handbook – www.bls.org/ooh

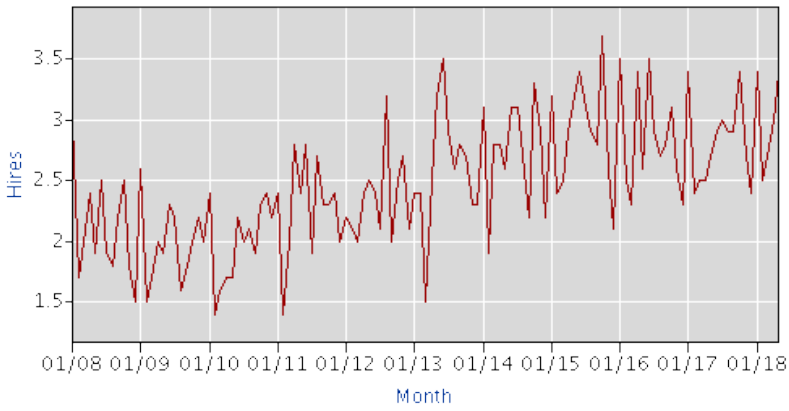
BUREAU OF LABOR STATISTICS - EMPLOYMENT PROJECTIONS									
Occupation Title	**SOC Code**	**Employment 2016 (thousands)**	**Employment 2026 (thousands)**	**Employment Change 2016 -2026 (thousands)**	**Employment Change 2016 - 2026 (Percent)**	**Occupational Openings 2016-2026 Annual Average (thousands)**	**2017 Median Annual Wage**	**Typical Entry Level Education**	**Work Experience**
Computer and information research scientists Example Job Titles * Computational Theory Scientist * Computer Scientist * Programming Methodology and Languages Researcher	15-1111	27.9	33.2	5.4	19.2	2.5	114,520	Master's degree	None
Computer science teachers, postsecondary Example Job Titles * Computer Information Systems Professor * IT Professor * Information Systems Professor * Information Technology Professor	25-1021	39.7	42.9	3.2	8.1	3.4	78,630	Doctoral or professional degree	None
Business teachers, postsecondary Example Job Titles * Business Administration Professor	25-1011	104.2	123.0	18.9	18.1	10.4	80,300	Doctoral or professional degree	None
Computer and information systems managers Example Job Titles	11-3021	367.6	411.8	44.2	12.0	32.5	139,220	Bachelor's degree	5 years or more

* Application Development Director * Chief Technology Officer * Computer Operations Manager * Computer Security Manager * Data Operations Director * Data Processing Manager * Information Systems Director * Information Systems Manager * Information Technology Director * Information Technology Systems Director * Internet Technology Manager * MIS Director * Management Information Systems Director									
Computer systems analysts Example Job Titles * Applications Analyst * Computer Systems Analyst * Computer Systems Consultant * Data Processing Systems Analyst * Information Systems Analyst * Information Systems Planner * Programmer Analyst * Systems Architect	15-1121	600.5	654.9	54.4	9.1	44.9	88,270	Bachelor's degree	None
Social scientists and related workers, all other Example Job Titles * Behavioral Scientist * Demographer * Ethnologist * Etymologist * Linguist	19-3099	42.1	44.9	2.7	6.5	4.2	79,370	Bachelor's degree	None

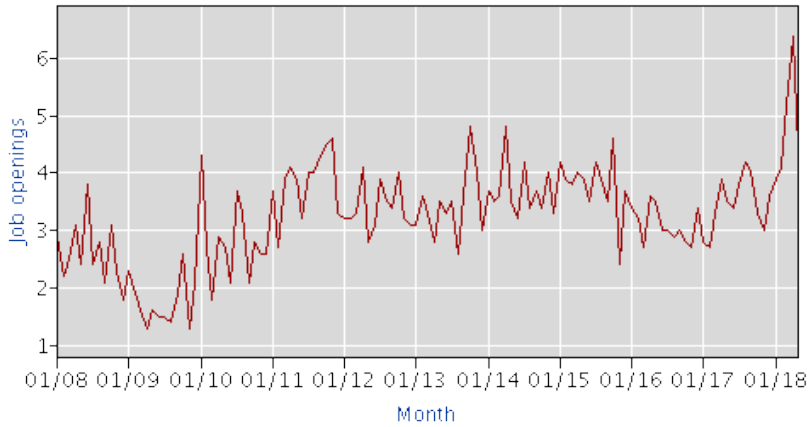
* Philologist * Social Scientist									
Statisticians Example Job Titles * Analytical Statistician * Applied Statistician * Statistical Analyst	15-2041	37.2	49.8	12.6	33.8	4.4	84,060	Master's degree	None

Job Openings and Labor Turnover Survey

Series Id: JTU51000000HIR **Industry:** Information **Region:** Total US **Data Element:** Hire



Series Id: JTU51000000JOR **Industry:** Information **Region:** Total US **Data Element:** Job openings



Occupational Employment and Wages, May 2017

15-1111 Computer and Information Research Scientists

Conduct research into fundamental computer and information science as theorists, designers, or inventors. Develop solutions to problems in the field of computer hardware and software.

National estimates for this occupation

Employment estimate and mean wage estimates for this occupation:

Employment (1)	Employment RSE (3)	Mean hourly wage	Mean annual wage (2)	Wage RSE (3)
27,920	3.4 %	$57.49	$119,570	1.4 %

Percentile wage estimates for this occupation:

Percentile	10%	25%	50% (Median)	75%	90%
Hourly Wage	$31.51	$42.67	$55.06	$70.02	$84.99
Annual Wage (2)	$65,540	$88,760	$114,520	$145,630	$176,780

Industry profile for this occupation

Industries with the highest published employment and wages for this occupation are provided.

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Federal Executive Branch (OES Designation)	7,630	0.38	$51.88	$107,910
Computer Systems Design and Related Services	6,000	0.30	$58.03	$120,700
Scientific Research and Development Services	4,640	0.72	$61.41	$127,730
Colleges, Universities, and Professional Schools	1,850	0.06	$42.75	$88,920
Software Publishers	1,610	0.44	$66.33	$137,970

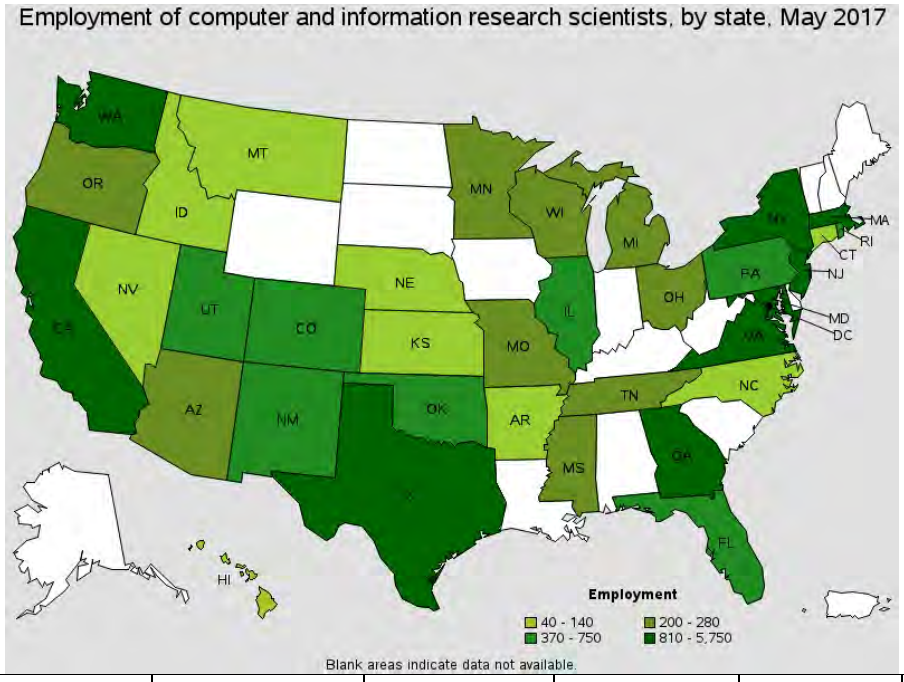
Industries with the highest concentration of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Scientific Research and Development Services	4,640	0.72	$61.41	$127,730
Software Publishers	1,610	0.44	$66.33	$137,970
Federal Executive Branch (OES Designation)	7,630	0.38	$51.88	$107,910
Computer Systems Design and Related Services	6,000	0.30	$58.03	$120,700
Professional and Commercial Equipment and Supplies Merchant Wholesalers	930	0.15	$70.41	$146,440

Geographic profile for this occupation

States and areas with the highest published employment, location quotients, and wages for this occupation are provided.

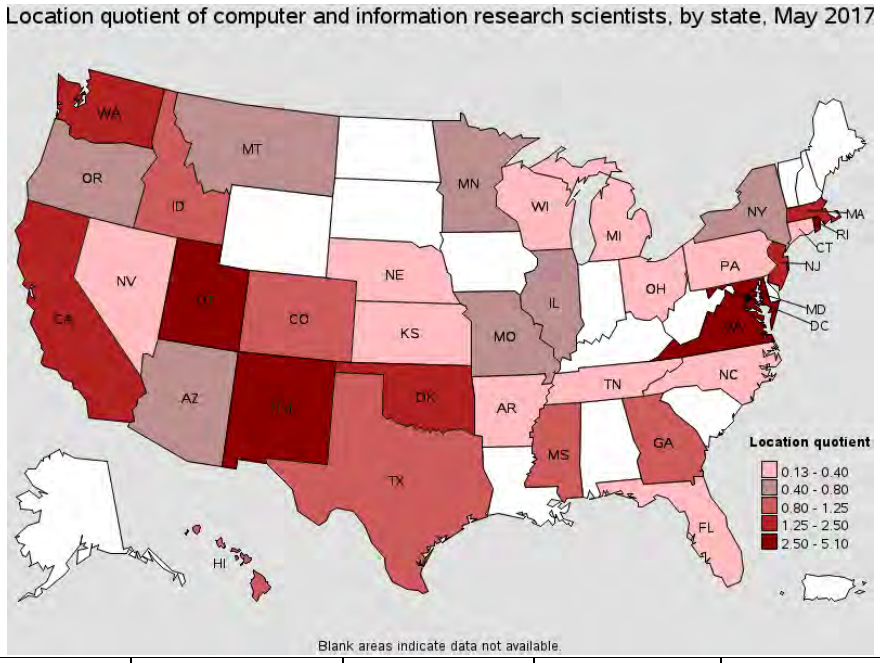
States with the highest employment level in this occupation:



State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)

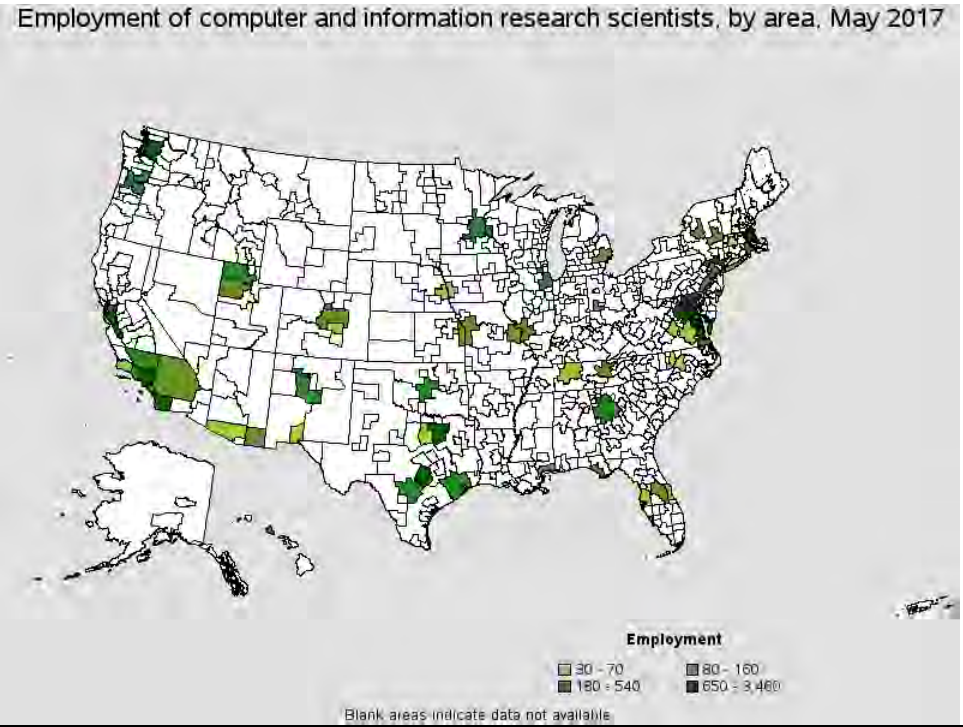
California	5,750	0.34	1.76	$61.80	$128,530
Virginia	2,670	0.70	3.60	$62.00	$128,950
Maryland	2,660	1.00	5.10	$52.74	$109,700
Texas	2,170	0.18	0.93	$50.87	$105,800
Washington	1,340	0.42	2.15	$65.02	$135,240

States with the highest concentration of jobs and location quotients in this occupation:



State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Maryland	2,660	1.00	5.10	$52.74	$109,700
New Mexico	750	0.94	4.79	$63.56	$132,210
Rhode Island	410	0.86	4.39	$52.83	$109,880
Virginia	2,670	0.70	3.60	$62.00	$128,950
District of Columbia	450	0.64	3.26	$63.45	$131,980

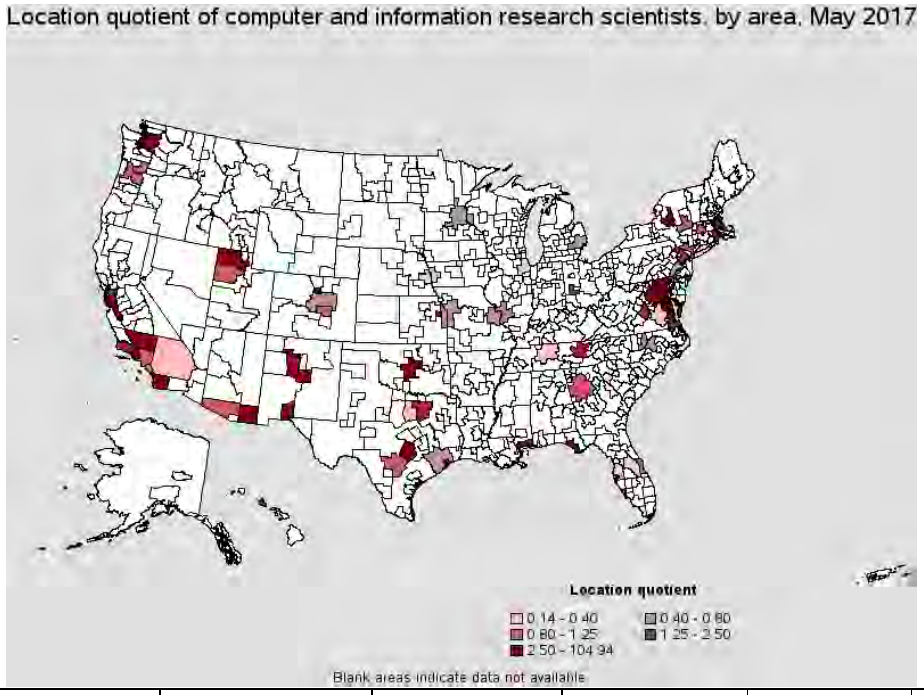
Metropolitan areas with the highest employment level in this occupation:



< Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	2,610	1.04	5.29	$62.96	$130,970
San Jose-Sunnyvale-Santa Clara, CA	1,260	1.16	5.93	$76.05	$158,170
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	1,250	0.19	0.96	$65.50	$136,230
Seattle-Bellevue-Everett, WA Metropolitan Division	1,070	0.65	3.31	$69.48	$144,530
Los Angeles-Long Beach-Glendale, CA Metropolitan Division	1,040	0.23	1.20	$60.42	$125,660
San Francisco-Redwood City-South San Francisco, CA Metropolitan Division	990	0.89	4.54	$62.31	$129,600
San Diego-Carlsbad, CA	940	0.65	3.34	$56.97	$118,500

Baltimore-Columbia-Towson, MD	900	0.66	3.39	$54.86	$114,110
Silver Spring-Frederick-Rockville, MD Metropolitan Division	850	1.46	7.44	$52.32	$108,820

Metropolitan areas with the highest concentration of jobs and location quotients in this occupation:



Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
California-Lexington Park, MD	310	6.79	34.68	$54.37	$113,080
Sierra Vista-Douglas, AZ	80	2.52	12.86	$50.67	$105,390
Atlantic City-Hammonton, NJ	240	1.92	9.79	$57.06	$118,680
Ogden-Clearfield, UT	390	1.56	7.98	$39.96	$83,130
Silver Spring-Frederick-Rockville, MD Metropolitan Division	850	1.46	7.44	$52.32	$108,820
Panama City, FL	110	1.35	6.88	$51.60	$107,330

San Jose-Sunnyvale-Santa Clara, CA	1,260	1.16	5.93	$76.05	$158,170
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	2,610	1.04	5.29	$62.96	$130,970
Las Cruces, NM	70	1.01	5.14	$42.68	$88,770
Bremerton-Silverdale, WA	90	1.01	5.17	$43.39	$90,250

Occupational Employment and Wages, May 2017

25-1021 Computer Science Teachers, Postsecondary

Teach courses in computer science. May specialize in a field of computer science, such as the design and function of computers or operations and research analysis. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

National estimates for this occupation

Employment estimate and mean wage estimates for this occupation:

Employment (1)	Employment RSE (3)	Mean hourly wage	Mean annual wage (2)	Mean wage RSE (3)
32,230	2.0 %	(4)	$91,590	1.1 %

Percentile wage estimates for this occupation:

Percentile	10%	25%	50% (Median)	75%	90%
Annual Wage (2)	$41,270	$56,070	$78,630	$113,930	$159,180
(4)					

Industry profile for this occupation

Industries with the highest published employment and wages for this occupation are provided.

Industries with the highest levels of employment in this occupation:

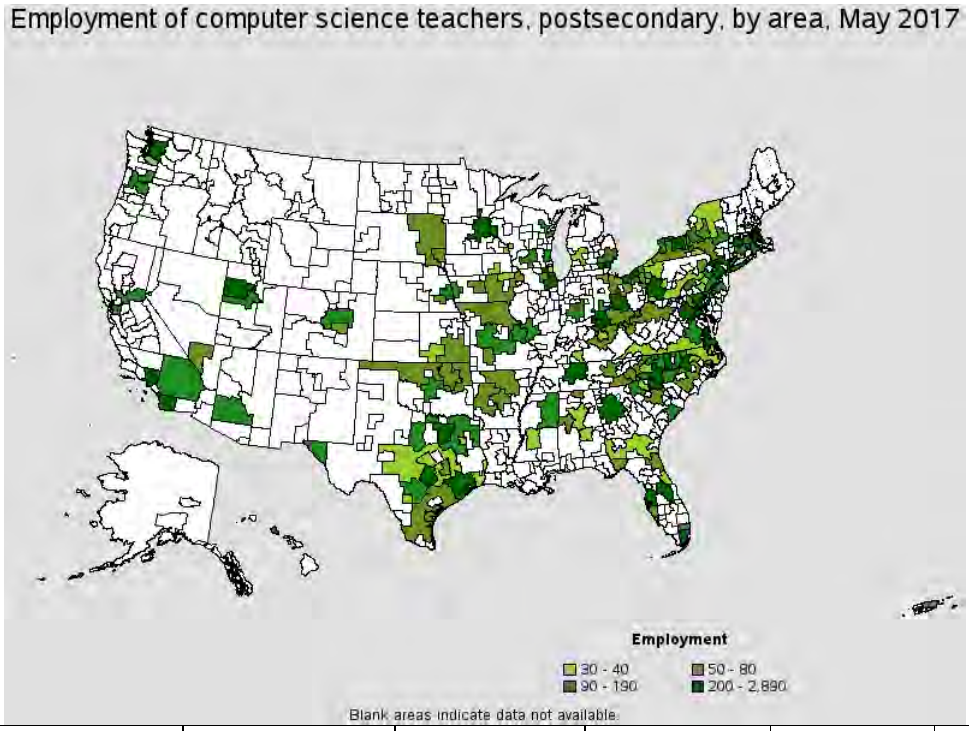
Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Colleges, Universities, and Professional Schools	20,470	0.68	(4)	$97,460
Junior Colleges	10,950	1.49	(4)	$79,590
Business Schools and Computer and Management Training	420	0.60	(4)	$141,860
Technical and Trade Schools	320	0.24	(4)	$64,660

Industries with the highest concentration of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Junior Colleges	10,950	1.49	(4)	$79,590

Colleges, Universities, and Professional Schools	20,470	0.68	(4)	$97,460
Business Schools and Computer and Management Training	420	0.60	(4)	$141,860
Technical and Trade Schools	320	0.24	(4)	$64,660

Metropolitan areas with the highest employment level in this occupation:



Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	2,060	0.31	1.36	(4)	$109,380
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	900	0.36	1.59	(4)	$118,600
Los Angeles-Long Beach-Glendale, CA Metropolitan Division	860	0.19	0.86	(4)	$116,680
Chicago-Naperville-Arlington Heights, IL Metropolitan Division	770	0.21	0.93	(4)	$92,750

Miami-Miami Beach-Kendall, FL Metropolitan Division	540	0.47	2.08	(4)	$72,650
Houston-The Woodlands-Sugar Land, TX	470	0.16	0.71	(4)	$107,840
Boston-Cambridge-Newton, MA NECTA Division	460	0.25	1.10	(4)	$111,330
Orlando-Kissimmee-Sanford, FL	450	0.37	1.63	(4)	$78,300
Virginia Beach-Norfolk-Newport News, VA-NC	420	0.56	2.47	(8)	(8)
Pittsburgh, PA	400	0.35	1.56	(4)	$77,570

Occupational Employment and Wages, May 2017

25-1011 Business Teachers, Postsecondary

Teach courses in business administration and management, such as accounting, finance, human resources, labor and industrial relations, marketing, and operations research. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

National estimates for this occupation

Employment estimate and mean wage estimates for this occupation:

Employment (1)	Employment RSE (3)	Mean hourly wage	Mean annual wage (2)	Mean wage RSE (3)
84,340	1.5 %	(4)	$100,270	1.2 %

Percentile wage estimates for this occupation:

Percentile	10%	25%	50% (Median)	75%	90%
Annual Wage (2)	$37,170	$53,150	$80,300	$125,780	$191,760

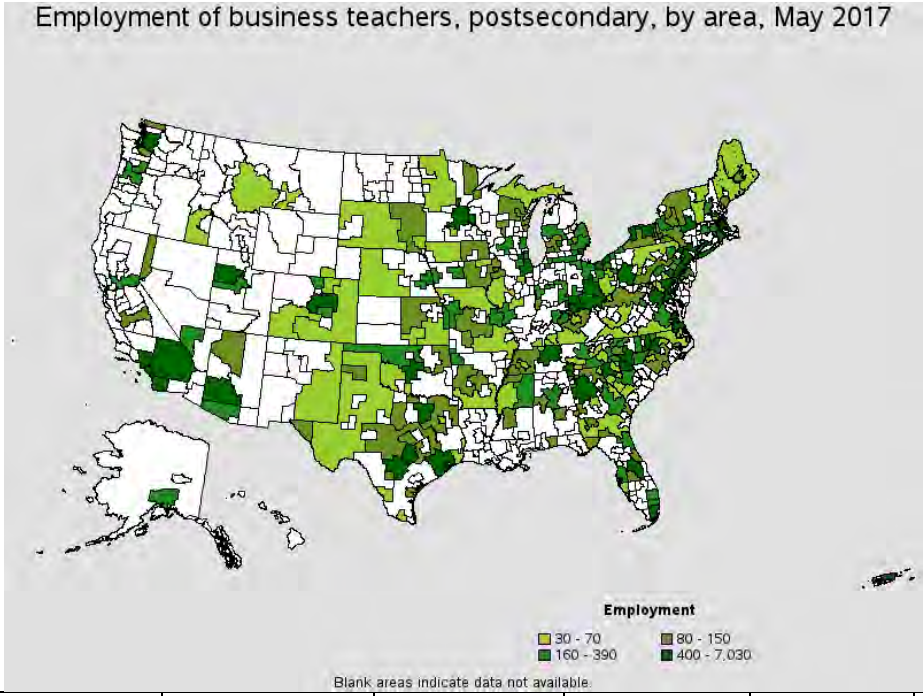
Industry profile for this occupation

Industries with the highest published employment and wages for this occupation are provided.

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Colleges, Universities, and Professional Schools	64,620	2.14	(4)	$106,010
Junior Colleges	18,790	2.55	(4)	$82,470
Business Schools and Computer and Management Training	480	0.68	(4)	$65,070
Technical and Trade Schools	360	0.27	(4)	$55,430
Educational Support Services	40	0.02	(4)	$51,560

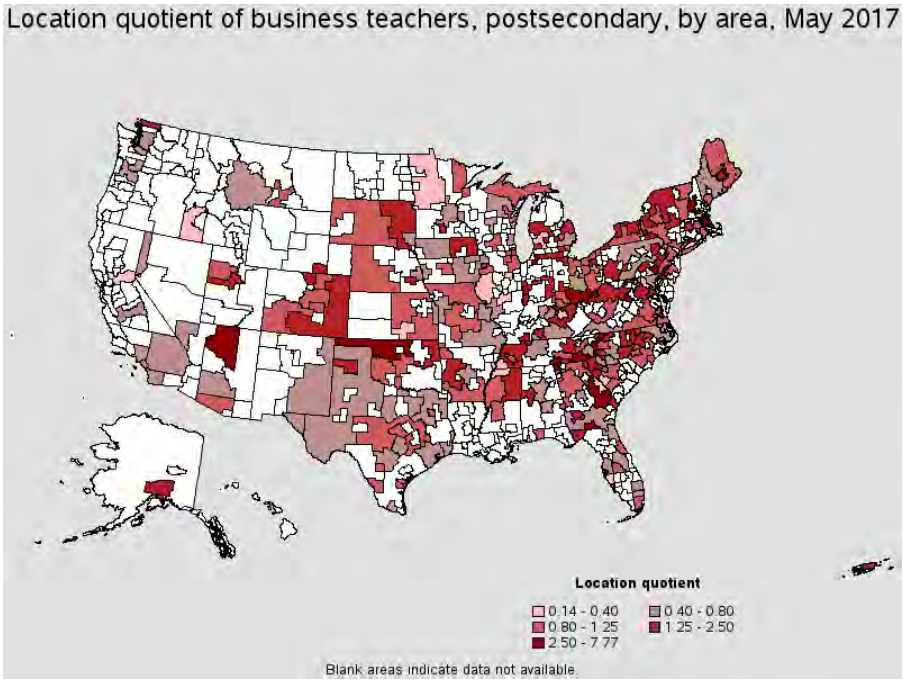
Metropolitan areas with the highest employment level in this occupation:



Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	4,910	0.73	1.24	(4)	$116,410
Boston-Cambridge-Newton, MA NECTA Division	2,970	1.61	2.72	(8)	(8)
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	2,690	1.07	1.80	(4)	$109,800
Philadelphia, PA Metropolitan Division	2,020	2.23	3.77	(4)	$95,280
Chicago-Naperville-Arlington Heights, IL Metropolitan Division	1,950	0.53	0.90	(4)	$124,430
Atlanta-Sandy Springs-Roswell, GA	1,440	0.55	0.93	(4)	$83,830
Pittsburgh, PA	1,320	1.16	1.97	(4)	$80,940
Los Angeles-Long Beach-Glendale, CA Metropolitan Division	1,270	0.29	0.49	(8)	(8)

Houston-The Woodlands-Sugar Land, TX	1,230	0.42	0.71	(4)	$106,190
Dallas-Plano-Irving, TX Metropolitan Division	880	0.35	0.59	(8)	(8)

Metropolitan areas with the highest employment level in this occupation:



Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean age	Annual mean wage (2)
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	4,910	0.73	1.24	(4)	$116,410
Boston-Cambridge-Newton, MA NECTA Division	2,970	1.61	2.72	(8)	(8)
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	2,690	1.07	1.80	(4)	$109,800
Philadelphia, PA Metropolitan Division	2,020	2.23	3.77	(4)	$95,280

Chicago-Naperville-Arlington Heights, IL Metropolitan Division	1,950	0.53	0.90	(4)	$124,430
Atlanta-Sandy Springs-Roswell, GA	1,440	0.55	0.93	(4)	$83,830
Pittsburgh, PA	1,320	1.16	1.97	(4)	$80,940
Los Angeles-Long Beach-Glendale, CA Metropolitan Division	1,270	0.29	0.49	(8)	(8)
Houston-The Woodlands-Sugar Land, TX	1,230	0.42	0.71	(4)	$106,190
Dallas-Plano-Irving, TX Metropolitan Division	880	0.35	0.59	(8)	(8)

Occupational Employment and Wages, May 2017

11-3021 Computer and Information Systems Managers

Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming. Excludes "Computer Occupations" (15-1111 through 15-1199).

National estimates for this occupation

Employment estimate and mean wage estimates for this occupation:

Employment (1)	Employment RSE (3)	Mean hourly wage	Mean annual wage (2)	Wage RSE (3)
365,690	0.8 %	$71.99	$149,730	0.4 %

Percentile wage estimates for this occupation:

Percentile	10%	25%	50% (Median)	75%	90%
Hourly Wage	$40.32	$51.80	$66.93	$84.56	(5)
Annual Wage (2)	$83,860	$107,740	$139,220	$175,890	(5)

Industry profile for this occupation

Industries with the highest published employment and wages for this occupation are provided.

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Computer Systems Design and Related Services	81,090	4.02	$76.04	$158,160
Management of Companies and Enterprises	37,150	1.60	$73.06	$151,960
Management, Scientific, and Technical Consulting Services	14,640	1.07	$76.27	$158,640
Software Publishers	13,430	3.66	$79.37	$165,090
Insurance Carriers	13,070	1.12	$72.75	$151,320

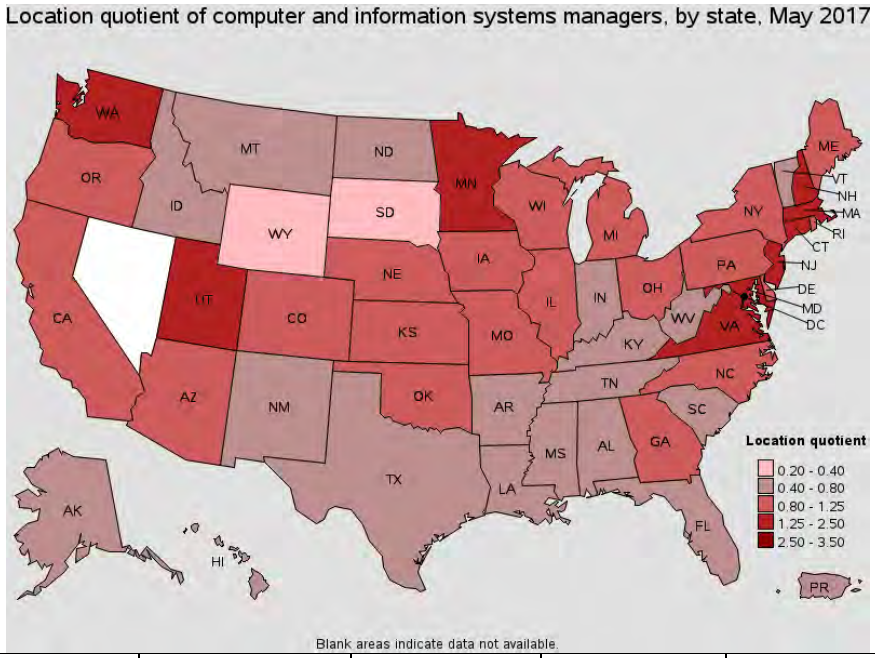
Industries with the highest concentration of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Computer Systems Design and Related Services	81,090	4.02	$76.04	$158,160
Software Publishers	13,430	3.66	$79.37	$165,090
Other Information Services	9,080	3.28	$88.85	$184,810
Data Processing, Hosting, and Related Services	9,370	3.05	$75.11	$156,220
Monetary Authorities-Central Bank	380	2.11	$81.12	$168,730

Geographic profile for this occupation:

States and areas with the highest published employment, location quotients, and wages for this occupation are provided.

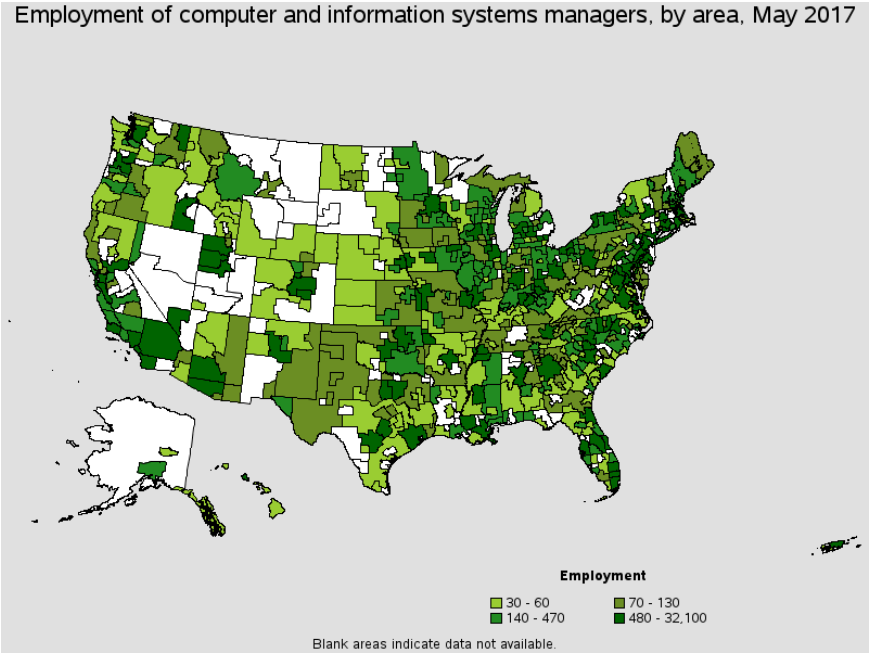
States with the highest concentration of jobs and location quotients in this occupation:



State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
District of Columbia	4,060	5.74	2.24	$78.99	$164,310
Connecticut	8,060	4.87	1.90	$71.03	$147,740
Massachusetts	16,310	4.62	1.80	$73.96	$153,830

Washington	12,590	3.95	1.54	$74.42	$154,790
Maryland	9,920	3.72	1.45	$72.38	$150,540

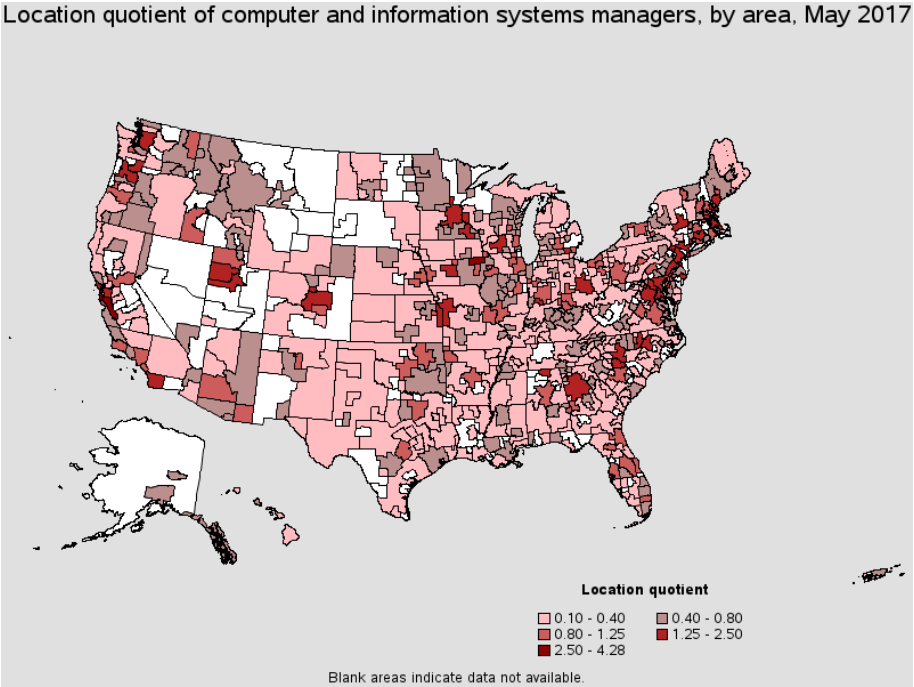
Metropolitan areas with the highest employment level in this occupation:



Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	24,320	3.63	1.42	$95.73	$199,130
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	14,920	5.92	2.31	$83.11	$172,880
San Jose-Sunnyvale-Santa Clara, CA	11,950	10.97	4.28	$98.16	$204,180
Atlanta-Sandy Springs-Roswell, GA	11,410	4.35	1.70	$68.71	$142,910
Boston-Cambridge-Newton, MA NECTA Division	11,400	6.19	2.41	$76.14	$158,370

Chicago-Naperville-Arlington Heights, IL Metropolitan Division	11,140	3.04	1.19	$68.31	$142,090
Seattle-Bellevue-Everett, WA Metropolitan Division	10,340	6.28	2.45	$78.00	$162,230
Los Angeles-Long Beach-Glendale, CA Metropolitan Division	10,340	2.33	0.91	$78.40	$163,070
San Francisco-Redwood City-South San Francisco, CA Metropolitan Division	8,760	7.85	3.06	$96.68	$201,100
Minneapolis-St. Paul-Bloomington, MN-WI	8,000	4.14	1.61	$70.41	$146,450

Metropolitan areas with the highest concentration of jobs and location quotients in this occupation:



Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
San Jose-Sunnyvale-Santa Clara, CA	11,950	10.97	4.28	$98.16	$204,180

San Francisco-Redwood City-South San Francisco, CA Metropolitan Division	8,760	7.85	3.06	$96.68	$201,100
Cedar Rapids, IA	1,060	7.54	2.94	$62.37	$129,730
Lowell-Billerica-Chelmsford, MA-NH NECTA Division	1,150	7.42	2.89	$72.93	$151,700
Seattle-Bellevue-Everett, WA Metropolitan Division	10,340	6.28	2.45	$78.00	$162,230
Framingham, MA NECTA Division	1,080	6.25	2.44	$78.51	$163,310
Boston-Cambridge-Newton, MA NECTA Division	11,400	6.19	2.41	$76.14	$158,370
California-Lexington Park, MD	280	6.06	2.36	$71.15	$147,990
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	14,920	5.92	2.31	$83.11	$172,880
Hartford-West Hartford-East Hartford, CT	3,210	5.52	2.15	$69.23	$144,010

Occupational Employment and Wages, May 2017

15-1121 Computer Systems Analysts

Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.

National estimates for this occupation

Employment estimate and mean wage estimates for this occupation:

Employment (1)	Employment RSE (3)	Mean hourly wage	Mean annual wage (2)	Wage RSE (3)
581,960	1.0 %	$44.59	$92,740	0.3 %

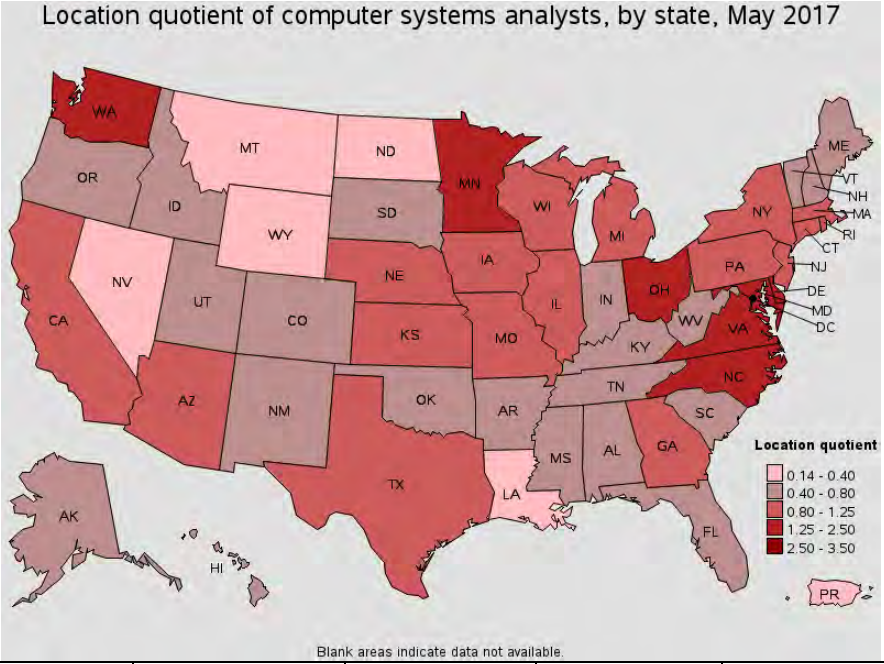
Percentile wage estimates for this occupation:

Percentile	10%	25%	50% (Median)	75%	90%
Hourly Wage	$25.84	$32.82	$42.44	$54.11	$67.24
Annual Wage (2)	$53,750	$68,260	$88,270	$112,540	$139,850

Industries with the highest levels of employment in this occupation:

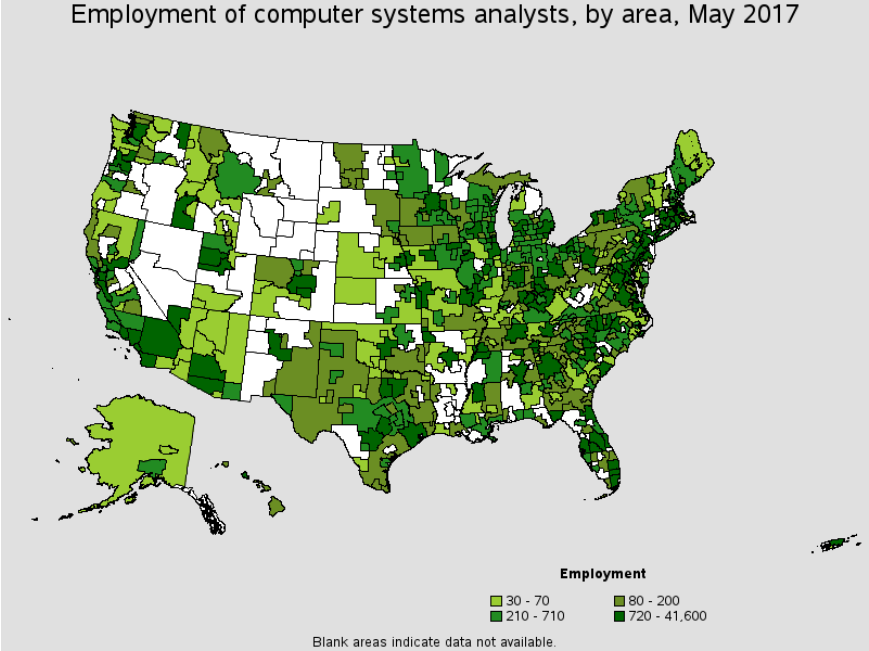
Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Computer Systems Design and Related Services	179,330	8.90	$46.84	$97,420
Management of Companies and Enterprises	56,220	2.42	$44.48	$92,520
Insurance Carriers	28,950	2.48	$42.31	$88,010
Management, Scientific, and Technical Consulting Services	23,420	1.71	$45.78	$95,230
State Government, excluding schools and hospitals (OES Designation)	21,490	0.98	$36.25	$75,400

States with the highest concentration of jobs and location quotients in this occupation:



State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Virginia	27,760	7.32	1.79	$48.12	$100,090
Delaware	2,950	6.66	1.63	$46.36	$96,440
Maryland	17,220	6.46	1.58	$46.97	$97,700
District of Columbia	4,260	6.01	1.47	$50.47	$104,970
Minnesota	16,630	5.86	1.44	$43.86	$91,230

Metropolitan areas with the highest employment level in this occupation:



Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	32,970	4.93	1.21	$55.18	$114,760
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	24,000	9.53	2.33	$50.09	$104,180
Dallas-Plano-Irving, TX Metropolitan Division	19,950	8.01	1.96	$47.06	$97,880
Chicago-Naperville-Arlington Heights, IL Metropolitan Division	17,990	4.91	1.20	$43.53	$90,550
Houston-The Woodlands-Sugar Land, TX	14,990	5.12	1.25	$48.63	$101,150
Minneapolis-St. Paul-Bloomington, MN-WI	14,780	7.65	1.87	$44.79	$93,150
Los Angeles-Long Beach-Glendale, CA Metropolitan Division	14,450	3.26	0.80	$45.20	$94,020
Atlanta-Sandy Springs-Roswell, GA	13,930	5.32	1.30	$43.46	$90,400

San Jose-Sunnyvale-Santa Clara, CA	13,600	12.49	3.06	$56.74	$118,010
Seattle-Bellevue-Everett, WA Metropolitan Division	12,840	7.80	1.91	$48.02	$99,870

Occupational Employment and Wages, May 2017

19-3099 Social Scientists and Related Workers, All Other

All social scientists and related workers not listed separately.

National estimates for this occupation

Employment estimate and mean wage estimates for this occupation:

Employment (1)	Employment RSE (3)	Mean hourly wage	Mean annual wage (2)	Wage RSE (3)
35,490	2.9 %	$40.01	$83,230	1.0 %

Percentile wage estimates for this occupation:

Percentile	10%	25%	50% (Median)	75%	90%
Hourly Wage	$23.36	$29.84	$38.16	$49.06	$59.25
Annual Wage (2)	$48,580	$62,070	$79,370	$102,040	$123,230

Industry profile for this occupation

Industries with the highest published employment and wages for this occupation are provided.

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Federal Executive Branch (OES Designation)	17,710	0.87	$42.06	$87,490
Colleges, Universities, and Professional Schools	4,590	0.15	$30.68	$63,810
Scientific Research and Development Services	3,780	0.58	$42.53	$88,460
Management, Scientific, and Technical Consulting Services	2,570	0.19	$47.80	$99,430
State Government, excluding schools and hospitals (OES Designation)	1,720	0.08	$33.30	$69,270

Industries with the highest concentration of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Federal Executive Branch (OES Designation)	17,710	0.87	$42.06	$87,490
Scientific Research and Development Services	3,780	0.58	$42.53	$88,460
Educational Support Services	860	0.49	$43.32	$90,100
Management, Scientific, and Technical Consulting Services	2,570	0.19	$47.80	$99,430
Colleges, Universities, and Professional Schools	4,590	0.15	$30.68	$63,810

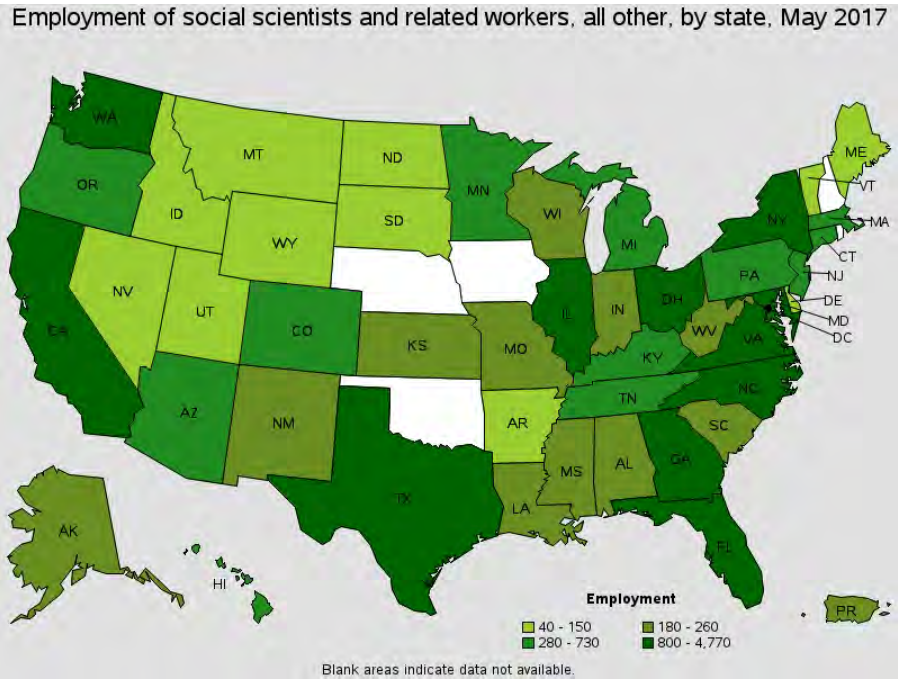
Top paying industries for this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Computer Systems Design and Related Services	150	0.01	$50.36	$104,740
Rail Transportation	60	0.03	$49.33	$102,610
Architectural, Engineering, and Related Services	260	0.02	$48.01	$99,870
Management, Scientific, and Technical Consulting Services	2,570	0.19	$47.80	$99,430
Grantmaking and Giving Services	50	0.03	$46.57	$96,870

Geographic profile for this occupation

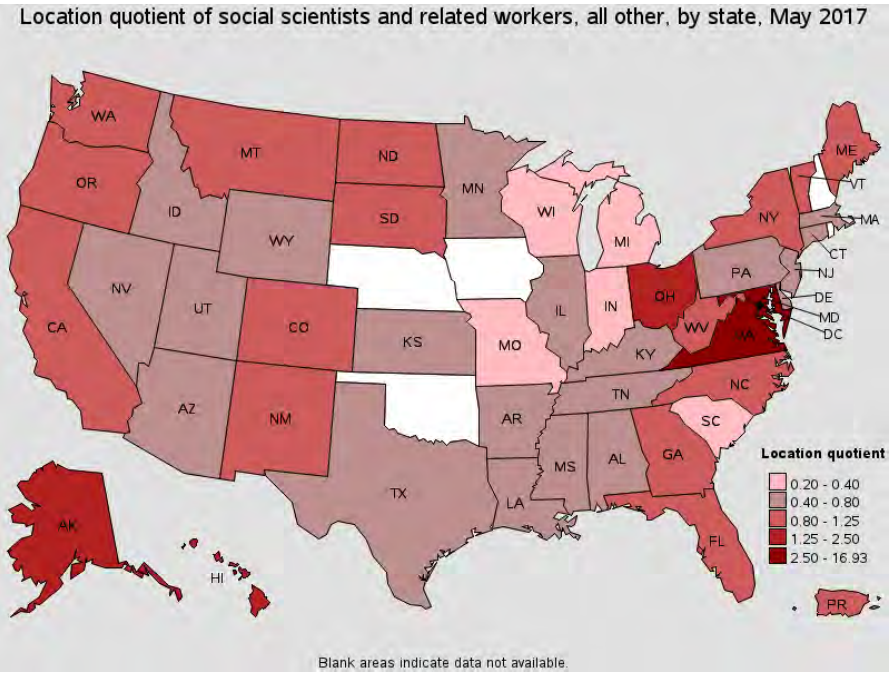
States and areas with the highest published employment, location quotients, and wages for this occupation are provided.

States with the highest employment level in this occupation:



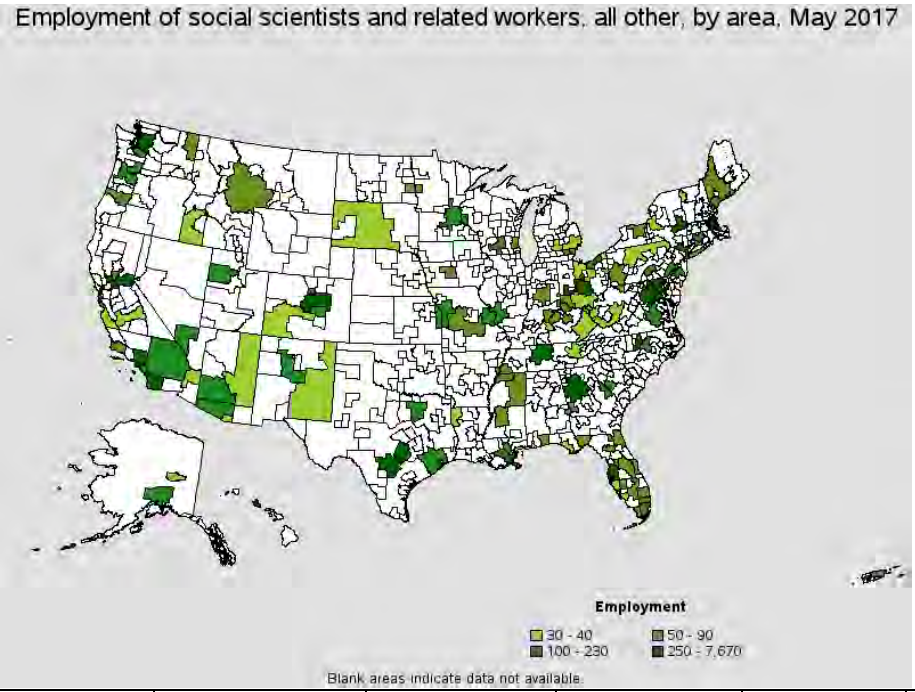
State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Virginia	4,770	1.26	5.05	$51.54	$107,210
California	4,330	0.26	1.04	$35.11	$73,040
District of Columbia	2,980	4.21	16.93	$48.60	$101,080
New York	2,210	0.24	0.96	$39.76	$82,690
Maryland	2,120	0.79	3.19	$45.88	$95,440

States with the highest concentration of jobs and location quotients in this occupation:



State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
District of Columbia	2,980	4.21	16.93	$48.60	$101,080
Virginia	4,770	1.26	5.05	$51.54	$107,210
Maryland	2,120	0.79	3.19	$45.88	$95,440
Alaska	200	0.61	2.47	$36.21	$75,310
Hawaii	330	0.52	2.09	$43.89	$91,300

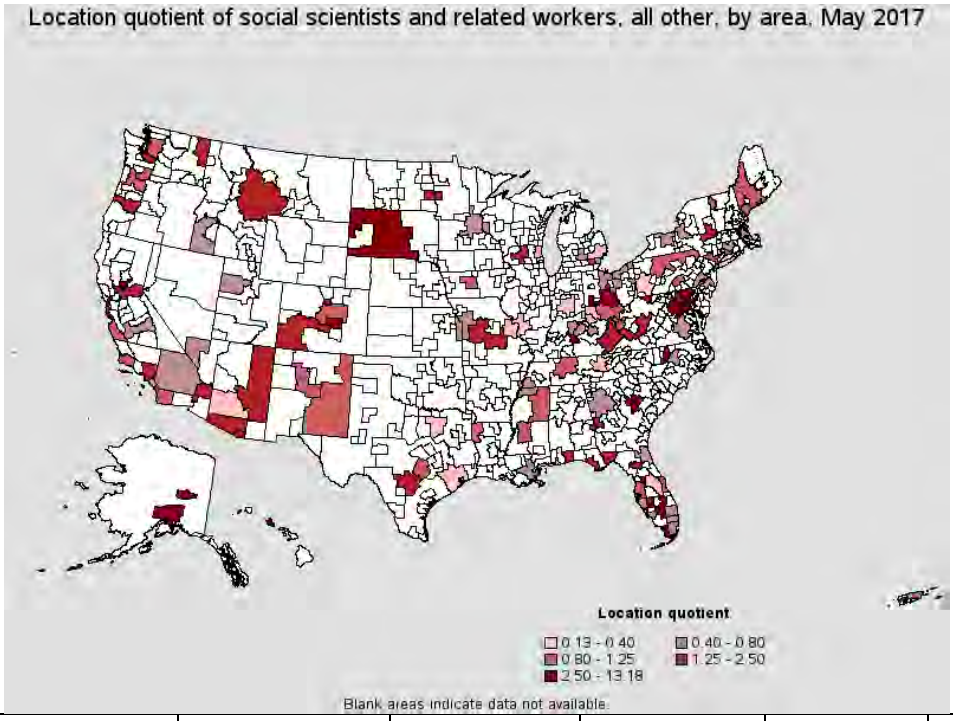
Metropolitan areas with the highest employment level in this occupation:



Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	7,310	2.90	11.66	$51.78	$107,700
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	1,700	0.25	1.02	$40.30	$83,820
Los Angeles-Long Beach-Glendale, CA Metropolitan Division	1,540	0.35	1.40	$31.25	$65,000
Baltimore-Columbia-Towson, MD	1,020	0.75	3.01	$42.42	$88,240
Columbus, OH	700	0.68	2.73	$31.23	$64,970
Durham-Chapel Hill, NC	640	2.14	8.61	$29.44	$61,230
Dayton, OH	600	1.62	6.52	$41.03	$85,340
San Antonio-New Braunfels, TX	580	0.57	2.30	$38.34	$79,750
Sacramento--Roseville--Arden-Arcade, CA	470	0.49	1.98	$34.31	$71,370

Seattle-Bellevue-Everett, WA Metropolitan Division	460	0.28	1.12	$34.39	$71,530

Metropolitan areas with the highest concentration of jobs and location quotients in this occupation:



Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
The Villages, FL	90	3.28	13.18	$34.16	$71,050
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	7,310	2.90	11.66	$51.78	$107,700
Durham-Chapel Hill, NC	640	2.14	8.61	$29.44	$61,230
Dayton, OH	600	1.62	6.52	$41.03	$85,340
Yuba City, CA	50	1.22	4.88	$36.76	$76,470
Fairbanks, AK	40	1.17	4.71	$33.89	$70,490
Augusta-Richmond County, GA-SC	230	1.06	4.25	$41.30	$85,900
Morgantown, WV	70	1.01	4.06	$33.09	$68,840
Elizabethtown-Fort Knox, KY	40	0.82	3.28	$32.57	$67,750

Baltimore-Columbia-Towson, MD	1,020	0.75	3.01	$42.42	$88,240

Occupational Employment and Wages, May 2017

15-2041 Statisticians

Develop or apply mathematical or statistical theory and methods to collect, organize, interpret, and summarize numerical data to provide usable information. May specialize in fields such as bio-statistics, agricultural statistics, business statistics, or economic statistics. Includes mathematical and survey statisticians. Excludes "Survey Researchers" (19-3022).

National estimates for this occupation

Employment estimate and mean wage estimates for this occupation:

Employment (1)	Employment RSE (3)	Mean hourly wage	Mean annual wage (2)	Wage RSE (3)
36,540	2.2 %	$42.78	$88,980	0.7 %

Percentile wage estimates for this occupation:

Percentile	10%	25%	50% (Median)	75%	90%
Hourly Wage	$24.36	$30.88	$40.41	$52.16	$64.29
Annual Wage (2)	$50,660	$64,230	$84,060	$108,500	$133,720

Industry profile for this occupation

Industries with the highest published employment and wages for this occupation are provided.

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Scientific Research and Development Services	5,470	0.85	$46.53	$96,780
Federal Executive Branch (OES Designation)	4,470	0.22	$50.05	$104,100
Management, Scientific, and Technical Consulting Services	3,040	0.22	$43.85	$91,220
State Government, excluding schools and hospitals (OES Designation)	2,700	0.12	$30.70	$63,860
General Medical and Surgical Hospitals	2,630	0.05	$39.80	$82,790

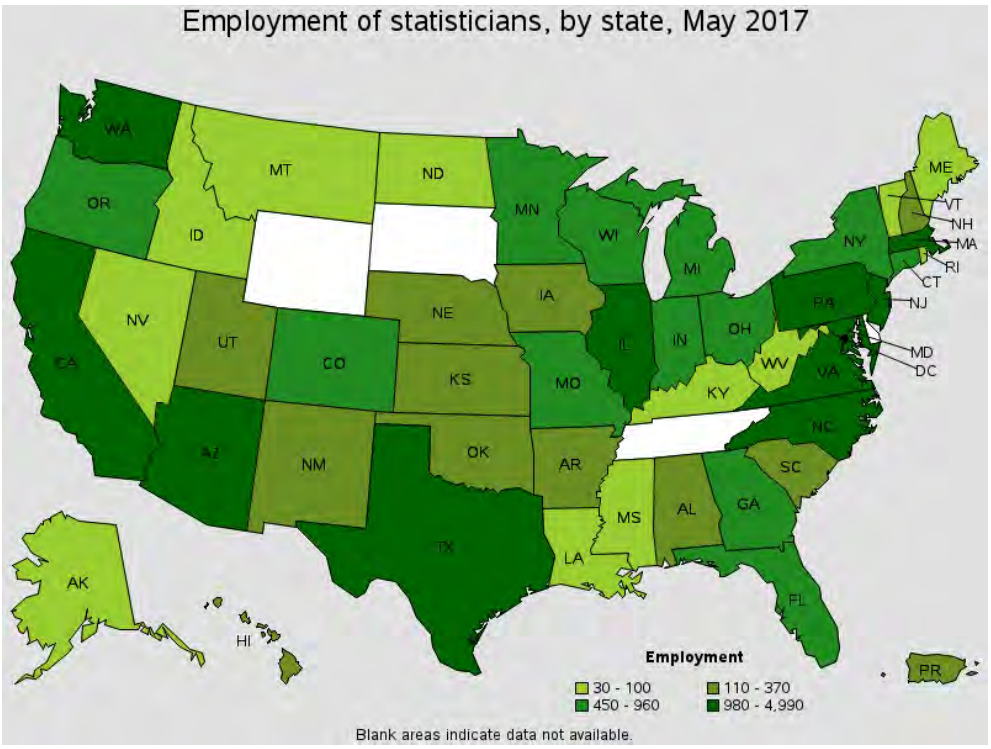
Industries with the highest concentration of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Monetary Authorities-Central Bank	160	0.89	$52.20	$108,570
Scientific Research and Development Services	5,470	0.85	$46.53	$96,780
Pharmaceutical and Medicine Manufacturing	970	0.34	$50.97	$106,010
Federal Executive Branch (OES Designation)	4,470	0.22	$50.05	$104,100
Management, Scientific, and Technical Consulting Services	3,040	0.22	$43.85	$91,220

Geographic profile for this occupation

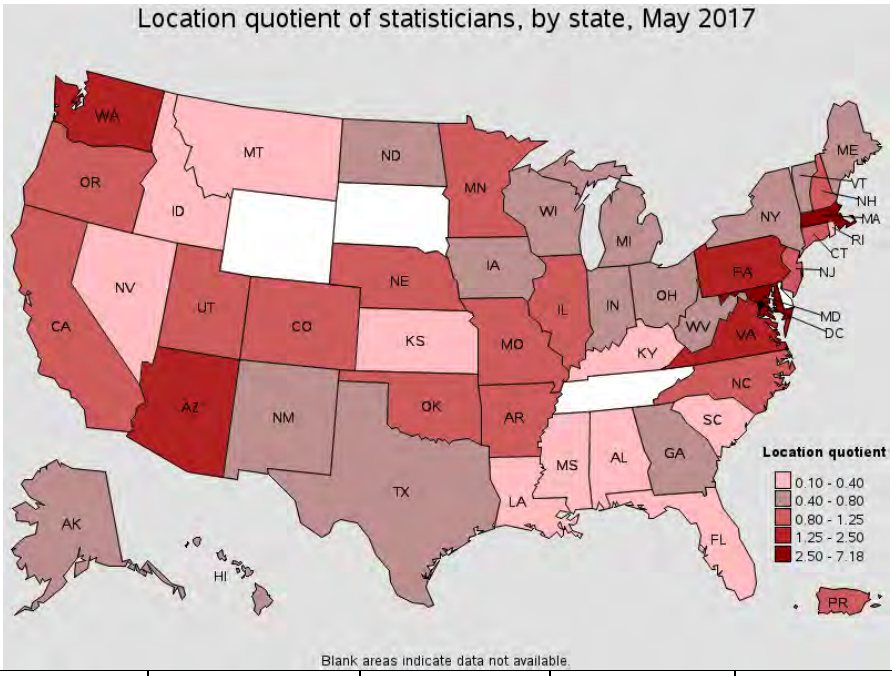
States and areas with the highest published employment, location quotients, and wages for this occupation are provided.

States with the highest employment level in this occupation:



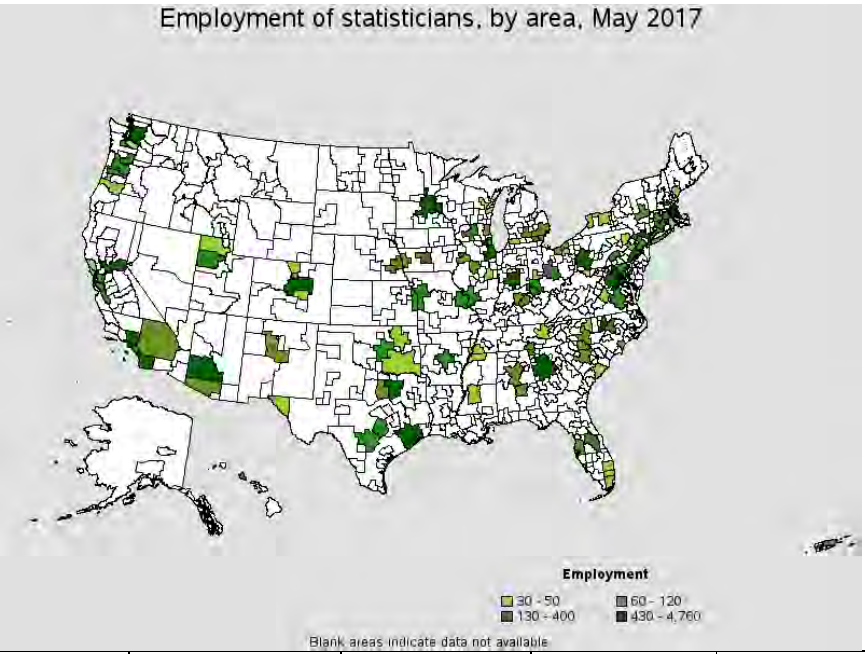
State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
California	4,990	0.30	1.17	$45.30	$94,230
Pennsylvania	3,330	0.58	2.25	$37.84	$78,700
Maryland	3,070	1.15	4.49	$49.23	$102,410
Massachusetts	2,920	0.83	3.23	$47.86	$99,550
Texas	1,690	0.14	0.55	$38.56	$80,210

States with the highest concentration of jobs and location quotients in this occupation:



State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
District of Columbia	1,300	1.84	7.18	$51.02	$106,110
Maryland	3,070	1.15	4.49	$49.23	$102,410
Massachusetts	2,920	0.83	3.23	$47.86	$99,550
Pennsylvania	3,330	0.58	2.25	$37.84	$78,700
Arizona	980	0.36	1.42	$36.44	$75,800

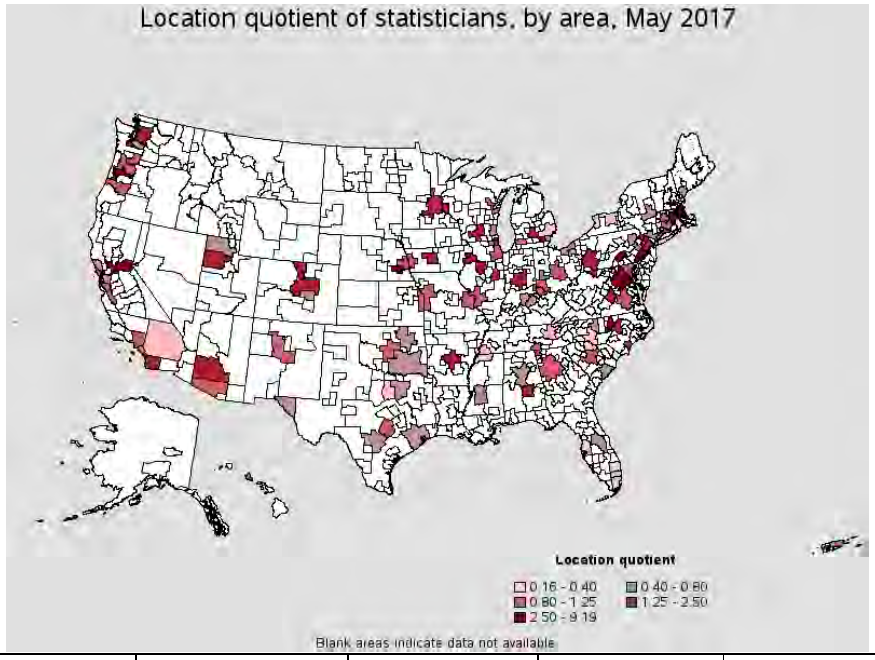
Metropolitan areas with the highest employment level in this occupation:



Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	3,860	1.53	5.97	$48.31	$100,490
Boston-Cambridge-Newton, MA NECTA Division	2,290	1.24	4.85	$49.15	$102,240
Montgomery County-Bucks County-Chester County, PA Metropolitan Division	1,460	1.41	5.50	$40.89	$85,050
Sacramento--Roseville--Arden-Arcade, CA	1,060	1.10	4.29	$36.37	$75,660
Chicago-Naperville-Arlington Heights, IL Metropolitan Division	980	0.27	1.04	$39.11	$81,360
Los Angeles-Long Beach-Glendale, CA Metropolitan Division	950	0.21	0.84	$39.54	$82,240
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	910	0.14	0.53	$50.59	$105,230

Silver Spring-Frederick-Rockville, MD Metropolitan Division	900	1.55	6.03	$54.48	$113,320
Phoenix-Mesa-Scottsdale, AZ	850	0.43	1.68	$36.00	$74,880
San Francisco-Redwood City-South San Francisco, CA Metropolitan Division	820	0.74	2.88	$58.56	$121,800

Metropolitan areas with the highest concentration of jobs and location quotients in this occupation:



Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Durham-Chapel Hill, NC	700	2.36	9.19	$48.64	$101,180
Silver Spring-Frederick-Rockville, MD Metropolitan Division	900	1.55	6.03	$54.48	$113,320
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	3,860	1.53	5.97	$48.31	$100,490

Montgomery County-Bucks County-Chester County, PA Metropolitan Division	1,460	1.41	5.50	$40.89	$85,050
Trenton, NJ	310	1.35	5.26	$51.01	$106,110
Boston-Cambridge-Newton, MA NECTA Division	2,290	1.24	4.85	$49.15	$102,240
Salem, OR	190	1.16	4.53	$34.47	$71,690
Olympia-Tumwater, WA	120	1.12	4.35	(8)	(8)
Sacramento--Roseville--Arden-Arcade, CA	1,060	1.10	4.29	$36.37	$75,660
Ann Arbor, MI	210	0.98	3.82	$37.12	$77,220

About May 2017 National, State, Metropolitan, and Nonmetropolitan Area Occupational Employment and Wage Estimates

These estimates are calculated with data collected from employers in all industry sectors, all metropolitan and nonmetropolitan areas, and all states and the District of Columbia. The top employment and wage figures are provided above. The percentile wage estimate is the value of a wage below which a certain percent of workers fall. The median wage is the 50th percentile wage estimate--50 percent of workers earn less than the median and 50 percent of workers earn more than the median. (1) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers. (2) Annual wages have been calculated by multiplying the hourly mean wage by a "year-round, full-time" hours figure of 2,080 hours; for those occupations where there is not an hourly wage published, the annual wage has been directly calculated from the reported survey data. (3) The relative standard error (RSE) is a measure of the reliability of a survey statistic. The smaller the relative standard error, the more precise the estimate. (5) This wage is equal to or greater than $100.00 per hour or $208,000 per year. (8) Estimate not released. (9) The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average.

Occupational Employment and Wages, May 2017

41-3031 Securities, Commodities, and Financial Services Sales Agents

Buy and sell securities or commodities in investment and trading firms, or provide financial services to businesses and individuals. May advise customers about stocks, bonds, mutual funds, commodities, and market conditions.

National estimates for this occupation
Industry profile for this occupation
Geographic profile for this occupation

National estimates for this occupation: Top

Employment estimate and mean wage estimates for this occupation:

Employment (1)	Employment RSE (3)	Mean hourly wage	Mean annual wage (2)	Wage RSE (3)
389,610	1.1 %	$46.85	$97,440	1.4 %

Percentile wage estimates for this occupation:

Percentile	10%	25%	50% (Median)	75%	90%
Hourly Wage	$15.89	$19.55	$30.66	$58.63	(5)
Annual Wage (2)	$33,060	$40,670	$63,780	$121,960	(5)

Industry profile for this occupation: Top

Industries with the highest published employment and wages for this occupation are provided. For a list of all industries with employment in this occupation, see the Create Customized Tables function.

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)

Securities, Commodity Contracts, and Other Financial Investments and Related Activities	172,800	18.86	$63.02	$131,090
Credit Intermediation and Related Activities (5221 And 5223 only)	160,890	8.09	$30.55	$63,550
Nondepository Credit Intermediation	24,470	3.89	$40.23	$83,680
Management of Companies and Enterprises	13,430	0.58	$48.46	$100,790
Agencies, Brokerages, and Other Insurance Related Activities	4,490	0.40	$44.96	$93,520

Industries with the highest concentration of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Securities, Commodity Contracts, and Other Financial Investments and Related Activities	172,800	18.86	$63.02	$131,090
Other Investment Pools and Funds	730	10.24	(8)	(8)
Credit Intermediation and Related Activities (5221 And 5223 only)	160,890	8.09	$30.55	$63,550
Nondepository Credit Intermediation	24,470	3.89	$40.23	$83,680
Management of Companies and Enterprises	13,430	0.58	$48.46	$100,790

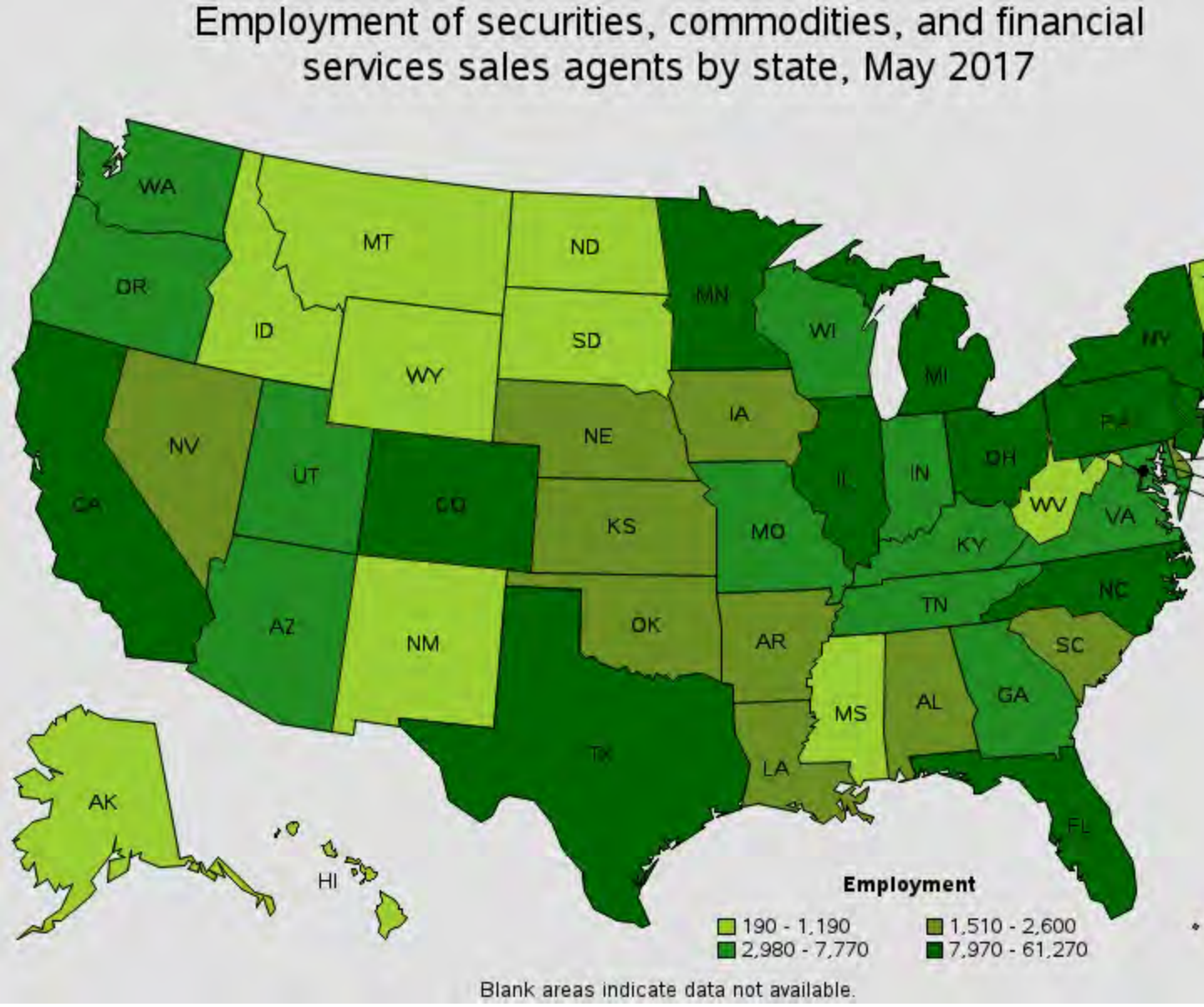
Top paying industries for this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
State Government, excluding schools and hospitals (OES Designation)	40	(7)	$79.66	$165,690
Real Estate	(8)	(8)	$77.78	$161,780

Securities, Commodity Contracts, and Other Financial Investments and Related Activities	172,800	18.86	$63.02	$131,090
Farm Product Raw Material Merchant Wholesalers	110	0.14	$58.90	$122,510
Computer Systems Design and Related Services	(8)	(8)	$56.29	$117,090

Geographic profile for this occupation: Top

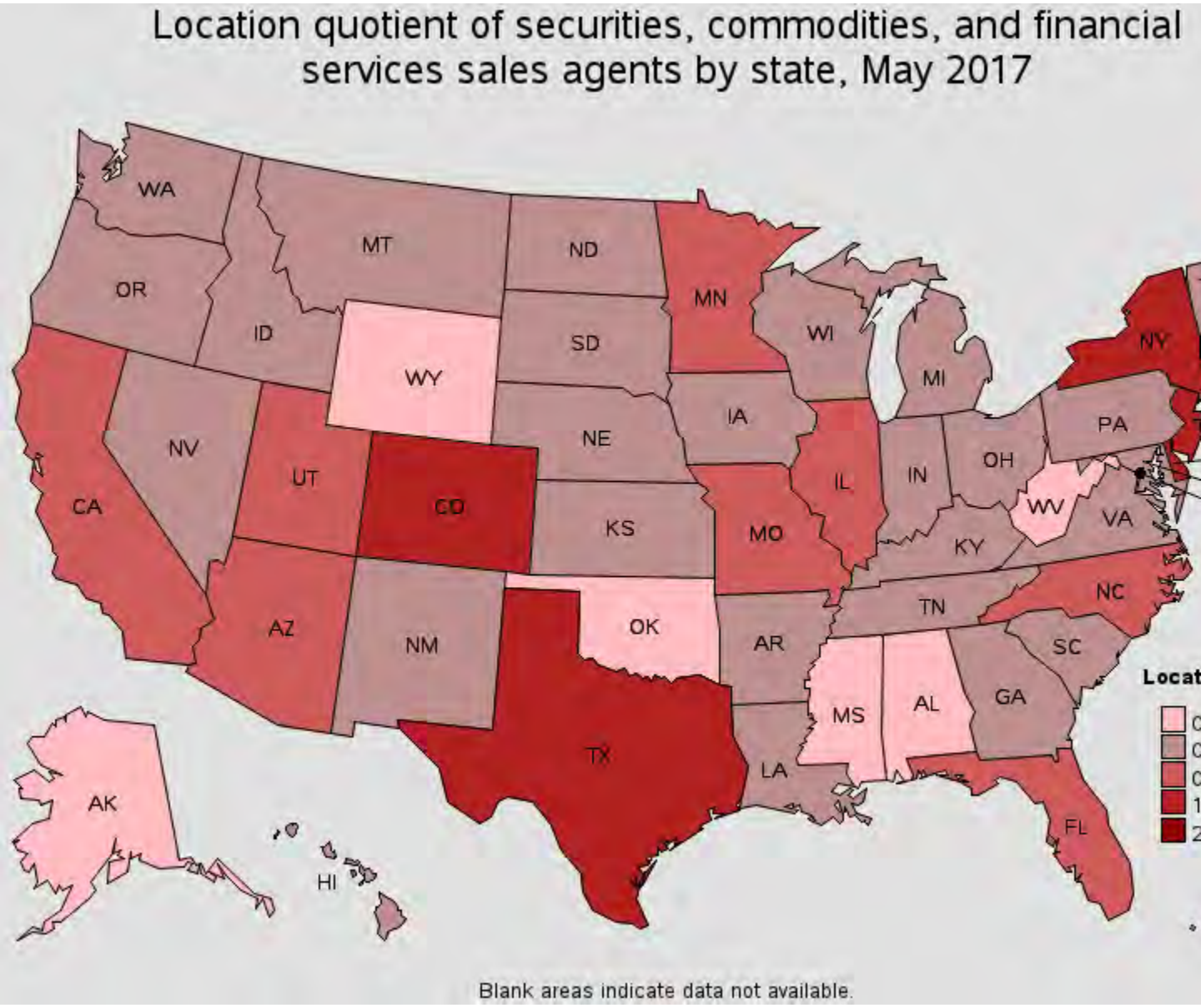
States and areas with the highest published employment, location quotients, and wages for this occupation are provided. For a list of all areas with employment in this occupation, see the Create Customized Tables function.



States with the highest employment level in this occupation:

State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
New York	61,270	6.65	2.43	$78.15	$162,550
California	49,230	2.95	1.08	$36.94	$76,830
Texas	40,790	3.43	1.26	$40.73	$84,720

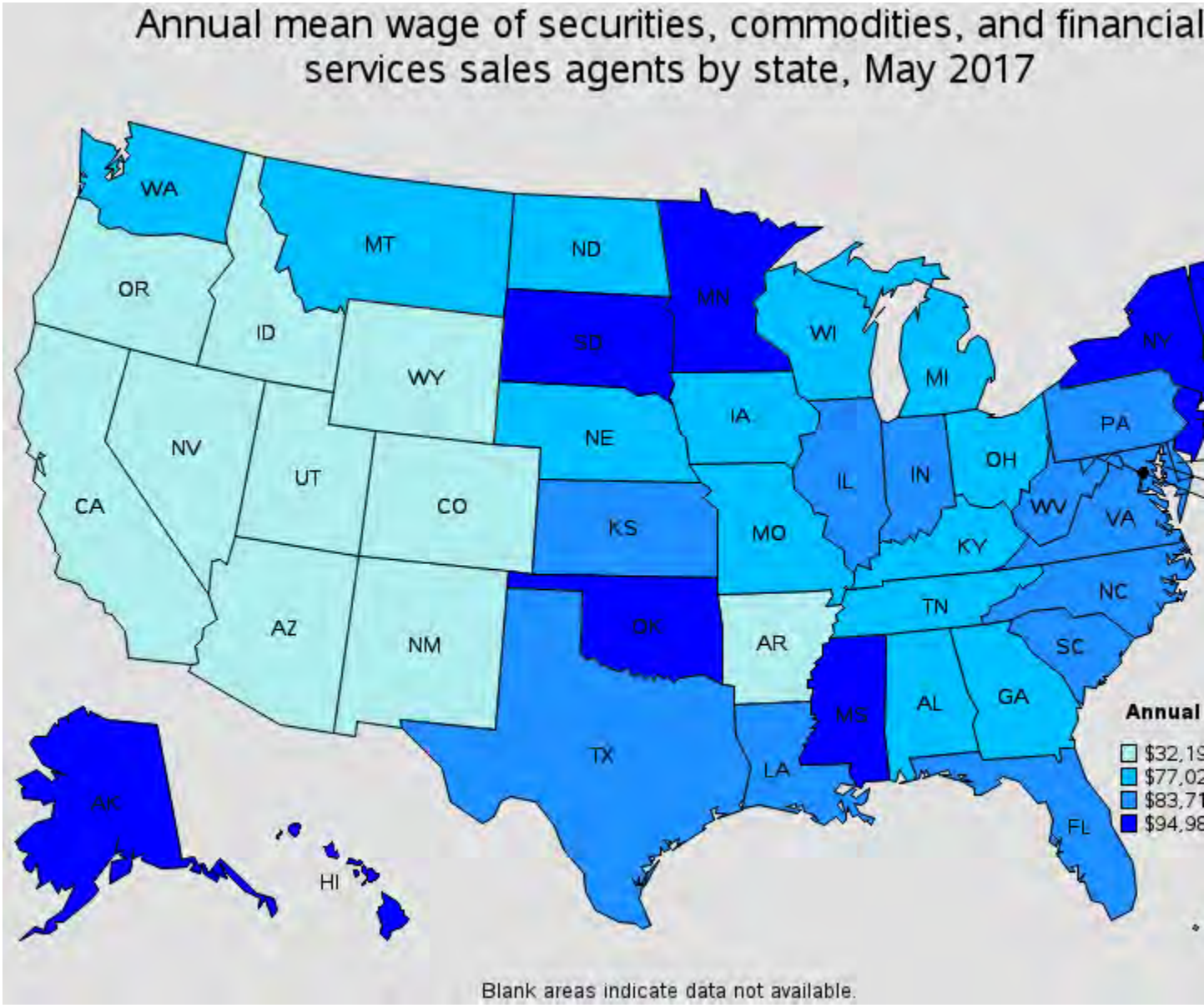
Florida	27,910	3.32	1.21	$40.25	$83,710
Illinois	19,870	3.35	1.23	$41.38	$86,070



States with the highest concentration of jobs and location quotients in this occupation:

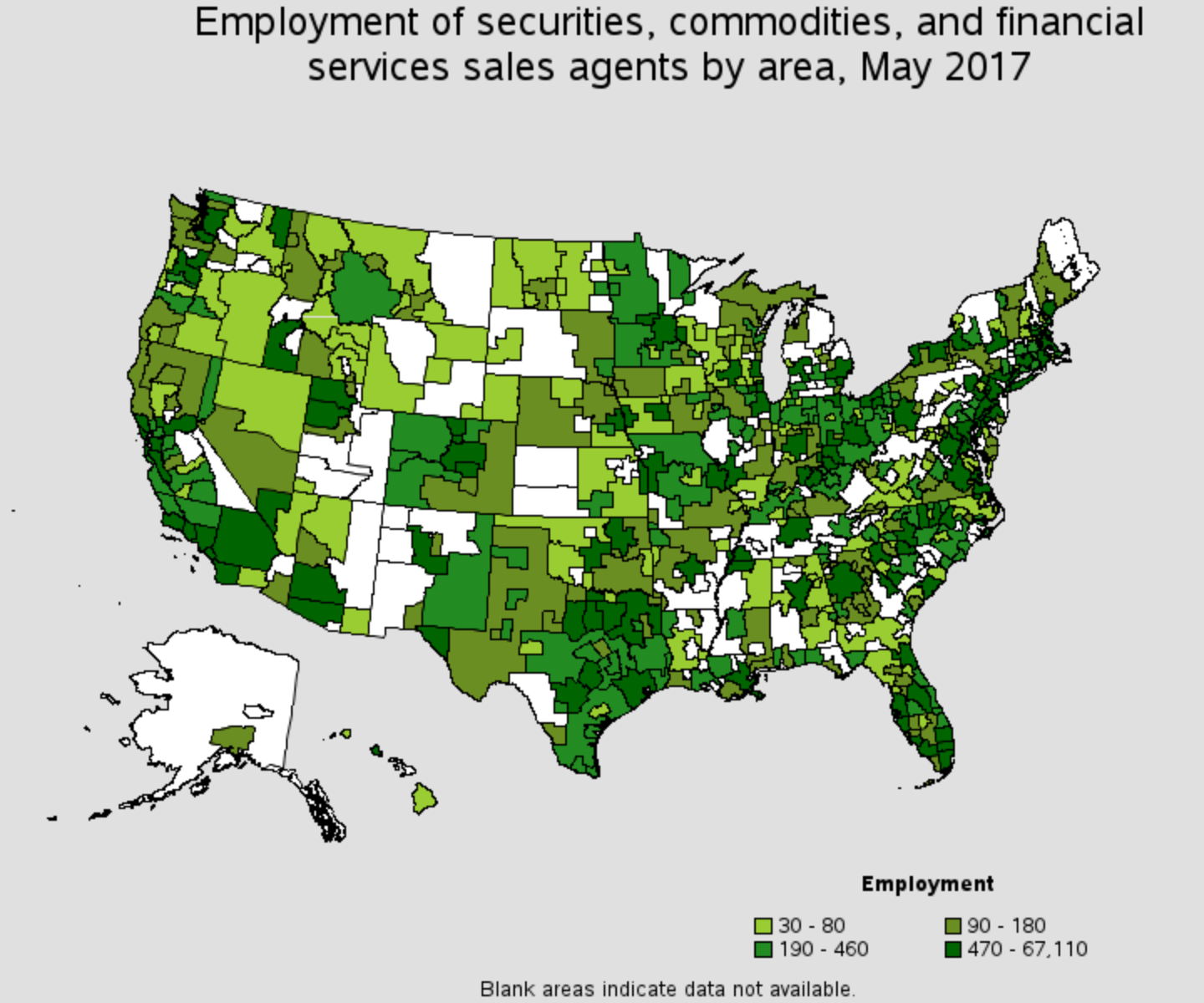
State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)

New York	61,270	6.65	2.43	$78.15	$162,550
Delaware	2,140	4.83	1.77	$40.84	$84,940
Colorado	11,920	4.66	1.71	$36.57	$76,070
Rhode Island	1,890	3.97	1.45	$62.52	$130,040
Connecticut	6,560	3.97	1.45	$60.62	$126,080



Top paying States for this occupation:

State	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
New York	61,270	6.65	2.43	$78.15	$162,550
Rhode Island	1,890	3.97	1.45	$62.52	$130,040
Connecticut	6,560	3.97	1.45	$60.62	$126,080
Massachusetts	11,500	3.26	1.19	$55.78	$116,030
Vermont	510	1.67	0.61	$54.58	$113,520



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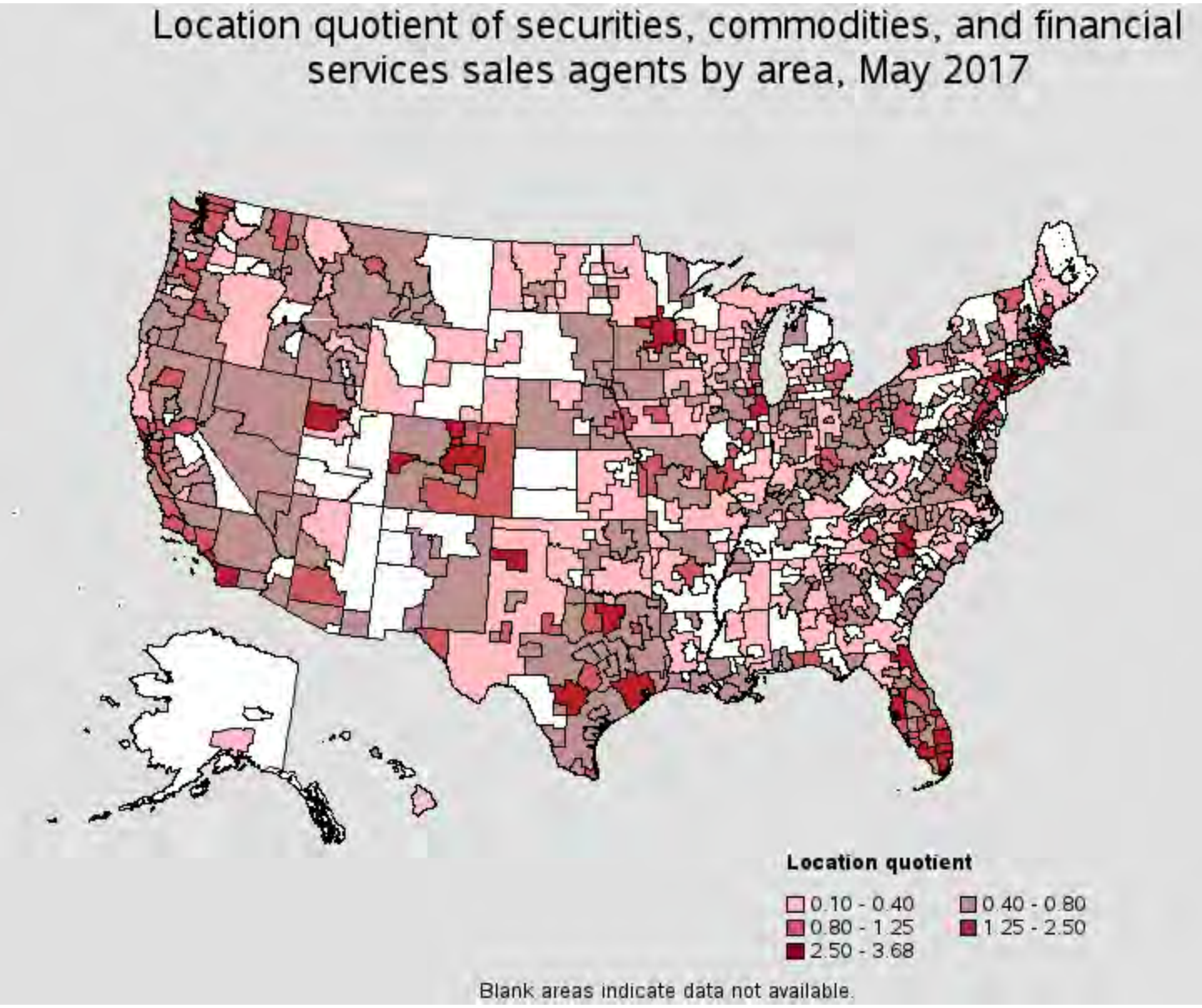
Metropolitan areas with the highest employment level in this occupation:

Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	59,110	8.83	3.23	(8)	(8)

Chicago-Naperville-Arlington Heights, IL Metropolitan Division	16,340	4.46	1.63	$42.65	$88,710
Los Angeles-Long Beach-Glendale, CA Metropolitan Division	13,300	3.00	1.10	$40.96	$85,190
Dallas-Plano-Irving, TX Metropolitan Division	11,920	4.78	1.75	$47.11	$98,000
Houston-The Woodlands-Sugar Land, TX	11,810	4.03	1.48	$39.84	$82,880
Boston-Cambridge-Newton, MA NECTA Division	9,300	5.06	1.85	$56.71	$117,950
Denver-Aurora-Lakewood, CO	8,480	5.87	2.15	$37.27	$77,520
Anaheim-Santa Ana-Irvine, CA Metropolitan Division	7,220	4.47	1.63	$37.35	$77,680
Minneapolis-St. Paul-Bloomington, MN-WI	7,210	3.73	1.36	$47.86	$99,550
Phoenix-Mesa-Scottsdale, AZ	6,450	3.26	1.19	$33.07	$68,780



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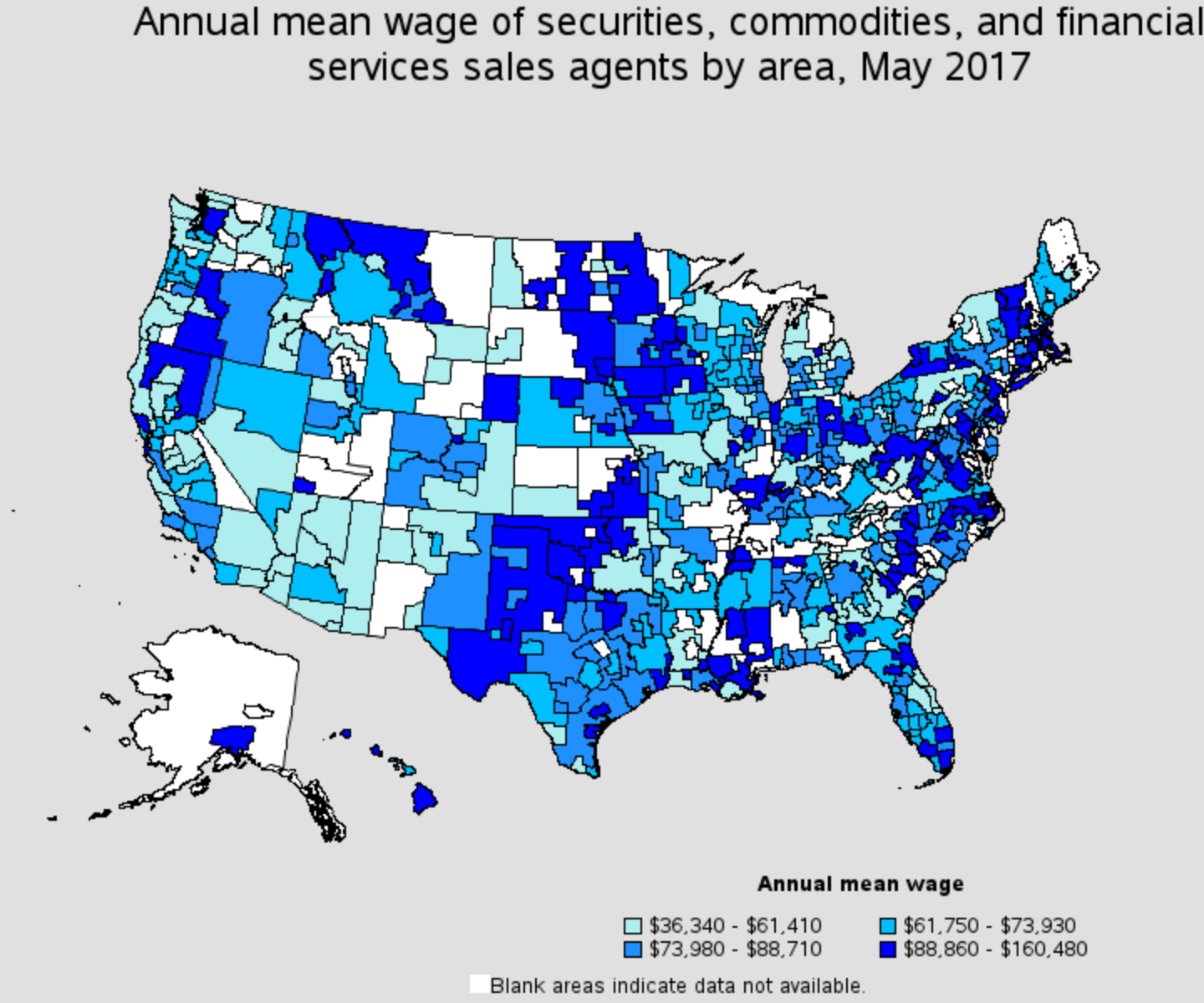
Metropolitan areas with the highest concentration of jobs and location quotients in this occupation:

Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Bridgeport-Stamford-Norwalk, CT	4,180	10.05	3.68	$67.82	$141,070

New York-Jersey City-White Plains, NY-NJ Metropolitan Division	59,110	8.83	3.23	(8)	(8)
Nashua, NH-MA NECTA Division	970	7.32	2.68	$49.21	$102,350
Denver-Aurora-Lakewood, CO	8,480	5.87	2.15	$37.27	$77,520
West Palm Beach-Boca Raton-Delray Beach, FL Metropolitan Division	3,420	5.67	2.08	$47.32	$98,430
Wilmington, DE-MD-NJ Metropolitan Division	1,970	5.66	2.07	$41.02	$85,330
Trenton, NJ	1,180	5.14	1.88	$46.37	$96,450
The Villages, FL	130	5.07	1.85	$34.25	$71,240
Boston-Cambridge-Newton, MA NECTA Division	9,300	5.06	1.85	$56.71	$117,950
St. Cloud, MN	520	4.98	1.82	$24.78	$51,550



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Top paying metropolitan areas for this occupation:

Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Florence-Muscle Shoals, AL	30	0.61	0.22	$67.89	$141,210
Bridgeport-Stamford-Norwalk, CT	4,180	10.05	3.68	$67.82	$141,070

Worcester, MA-CT	450	1.60	0.59	$64.37	$133,880
Brockton-Bridgewater-Easton, MA NECTA Division	(8)	(8)	(8)	$60.93	$126,740
Peabody-Salem-Beverly, MA NECTA Division	210	2.20	0.81	$59.14	$123,020
Oklahoma City, OK	740	1.23	0.45	$58.37	$121,400
Sioux Falls, SD	270	1.80	0.66	$57.71	$120,030
Ithaca, NY	110	2.23	0.82	$57.18	$118,930
Jacksonville, FL	2,740	4.10	1.50	$56.98	$118,520
St. George, UT	40	0.57	0.21	$56.89	$118,320

Nonmetropolitan areas with the highest employment in this occupation:

Nonmetropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
North Texas Region of Texas nonmetropolitan area	510	1.89	0.69	$39.95	$83,100
North Northeastern Ohio non-metropolitan area (non-contiguous)	360	1.08	0.40	$35.12	$73,050
Hill Country Region of Texas nonmetropolitan area	320	1.65	0.60	$42.26	$87,890
Piedmont North Carolina nonmetropolitan area	270	1.06	0.39	$39.76	$82,690
Central Kentucky nonmetropolitan area	260	1.46	0.54	(8)	(8)

Nonmetropolitan areas with the highest concentration of jobs and location quotients in this occupation:

Nonmetropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
Eastern and Southern Colorado nonmetropolitan area	180	2.65	0.97	$18.01	$37,460
Northern Vermont nonmetropolitan area	170	2.45	0.90	$49.12	$102,160
Northwest Washington nonmetropolitan area	130	2.43	0.89	$20.14	$41,900
Southwest Colorado nonmetropolitan area	200	2.07	0.76	$39.83	$82,850
South Nevada nonmetropolitan area	100	2.04	0.75	$27.71	$57,650

Top paying nonmetropolitan areas for this occupation:

Nonmetropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
West Montana nonmetropolitan area	50	0.69	0.25	$77.15	$160,480
Southeast Mississippi nonmetropolitan area	90	0.61	0.22	$73.11	$152,060
West Central New Hampshire nonmetropolitan area	70	1.15	0.42	$67.14	$139,650
Southeast Minnesota nonmetropolitan area	240	1.49	0.54	$62.59	$130,190
Northwest Iowa nonmetropolitan area	170	1.27	0.47	$60.88	$126,640

About May 2017 National, State, Metropolitan, and Nonmetropolitan Area Occupational Employment and Wage Estimates

These estimates are calculated with data collected from employers in all industry sectors, all metropolitan and nonmetropolitan areas, and all states and the District of Columbia. The top employment and wage figures are provided above. The complete list is available in the downloadable XLS files.

The percentile wage estimate is the value of a wage below which a certain percent of workers fall. The median wage is the 50th percentile wage estimate--50 percent of workers earn less than the median and 50 percent of workers earn more than the median. More about percentile wages.

(1) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers.

(2) Annual wages have been calculated by multiplying the hourly mean wage by a "year-round, full-time" hours figure of 2,080 hours; for those occupations where there is not an hourly wage published, the annual wage has been directly calculated from the reported survey data.

(3) The relative standard error (RSE) is a measure of the reliability of a survey statistic. The smaller the relative standard error, the more precise the estimate.

(5) This wage is equal to or greater than $100.00 per hour or $208,000 per year.

(7) The value is less than .005 percent of industry employment.

(8) Estimate not released.

(9) The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average.

Other OES estimates and related information:

May 2017 National Occupational Employment and Wage Estimates

May 2017 State Occupational Employment and Wage Estimates

May 2017 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates

May 2017 National Industry-Specific Occupational Employment and Wage Estimates

May 2017 Occupation Profiles

Technical Notes

Sample Job Descriptions for DBA in Information Systems Specialization

Research Data Scientist, KPMG

Innovate. Collaborate. Shine. Lighthouse — KPMG's Center of Excellence for Advanced Analytics — has both applied data science, AI, and big data architecture capabilities. Here, you'll work with a diverse team of sophisticated data and analytics professionals to explore the solutions for clients in a platform-diverse environment. This means your ability to find answers is limited only by your creativity in leveraging a vast array of techniques and tools. Be a part of a high-energy, diverse, fast-paced, and innovative culture that delivers with the agility of a tech startup and the backing of a leading global consulting firm. For you, that translates into the chance to work on a wide range of projects — covering technologies and solutions from AI to optimization — and the power to have a real impact in the business world. So, bring your creativity and pioneering spirit to KPMG Lighthouse.

KPMG is currently seeking an Associate to join our KPMG Lighthouse - Center of Excellence for Advanced Analytics.

Responsibilities:

- Analyze and model structured data using advanced statistical methods and implement algorithms and software needed to perform analyses
- Build recommendation engines, spam classifiers, sentiment analyzers and classifiers for unstructured and semi-structured data
- Cluster large amount of user generated content and process data in large-scale environments using Amazon EC2, Storm, Hadoop and Spark
- Perform machine learning, natural language, and statistical analysis methods, such as classification, collaborative filtering, association rules, sentiment analysis, topic modeling, time-series analysis, regression, statistical inference, and validation methods
- Participate in client engagements focused on big data and advanced business analytics, in diverse domains such as product development, marketing research, public policy, optimization, and risk management; communicate results and educate others through reports and presentations
- Perform explanatory data analyses, generate and test working hypotheses, prepare and analyze historical data and identify patterns

Qualifications:

- A minimum of one year of professional experience working as a Data Scientist
- Master's degree or PhD from an accredited college/university in Computer Science, Statistics, Mathematics, Engineering, Bioinformatics, Physics, Operations Research, or related fields, with a strong mathematical background and ability to understand algorithms and methods from a mathematical viewpoint and an intuitive viewpoint
- Strong knowledge in at least one of the following fields: natural language processing (NLP), artifical intelligence (AI), machine learning (ML), data visualization, statistical modeling, data mining, or information retrieval
- Strong data extraction and processing, using MapReduce, Pig, and/or Hive preferred
- Ability to travel up to eighty percent of the time. Must be legally authorized to work in the United States without sponsorship of a VISA.

KPMG LLP (the U.S. member firm of KPMG International) offers a comprehensive compensation and benefits package. KPMG is an equal opportunity employer. All qualified applicants are considered for employment without regard to race, color, creed, religion, age, sex/gender, national origin, ancestry, citizenship status, marital status, sexual orientation, gender identity or expression, disability, physical or mental handicap unrelated to ability, pregnancy, veteran status, unfavorable discharge from military service, genetic information, personal appearance, family responsibility, matriculation or political affiliation, or other legally protected status. KPMG maintains a drug-free workplace.

Data Scientist, Booz Allen Hamilton

The Challenge:

Are you excited at the prospect of unlocking the secrets held by a data set? Are you fascinated by the possibilities presented by the IoT, machine learning, and artificial intelligence advances? In an increasingly connected world, massive amounts of structured and unstructured data open up new opportunities. As a data scientist, you can turn these complex data sets into useful information to solve global challenges. Across private and public sectors — from fraud detection, to cancer research, to national intelligence — you know the answers are in the data.

We have an opportunity for you to use your analytical skills to improve the healthcare industry. You'll work closely with your customer to understand their questions and needs, and then dig into their data-rich environment to find the pieces of their information puzzle. You'll develop algorithms, write scripts, build predictive analytics, use automation, apply machine learning, and use the right combination of tools and frameworks to turn that set of disparate data points into objective answers to help senior leadership to make informed decisions. You'll provide your customer with a deep understanding of their data, what it all means, and how they can use it. Join us as we use data science for good in the healthcare industry.

Empower change with us.

Build Your Career:

At Booz Allen, we know the power of analytics and we're dedicated to helping you grow as a data analysis professional. When you join Booz Allen, you can expect:

- access to online and onsite training in data analysis and presentation methodologies, and tools like Hortonworks, Docker, Tableau, and Splunk
- a chance to change the world with the Data Science Bowl—the world's premier data science for social good competition
- participation in partnerships with data science leaders, like our partnership with NVIDIA to deliver Deep Learning Institute (DLI) training to the federal government

You'll have access to a wealth of training resources through our Analytics University, an online learning portal specifically geared towards data science and analytics skills, where you can access more than 5000 functional and technical courses, certifications, and books. Build your technical skills through hands-on training on the latest tools and state-of-the-art tech from our in-house experts. Pursuing certifications? Take advantage of our tuition assistance, on-site bootcamps, certification training, academic programs, vendor relationships, and a network of professionals who can give you helpful tips. We'll help you develop the career you want, as you chart your own course for success.

You Have:

- Experience in working with Python, SQL, and R

- Experience in working with natural language processing (NLP), clustering, and regression modeling
- Knowledge of Scala and JavaScript
- Ability to work with machine learning and data visualization
- HS diploma or GED

We're an EOE that empowers our people—no matter their race, color, religion, sex, gender identity, sexual orientation, national origin, disability, or veteran status—to fearlessly drive change.

Applied Social Scientist, National Security Agency.

The professionals at the National Security Agency (NSA) have one common goal: to protect our nation. The mission requires a strong offense and a steadfast defense. The offense collects, processes and disseminates intelligence information derived from foreign signals for intelligence and counterintelligence purposes. The defense prevents adversaries from getting access to sensitive or classified national security information. Managers at NSA, where people are a priority, are responsible for leveraging the diversity of their work force to create innovative solutions that support the Agency's missions.

NSA seeks mid-level to experienced human capital professionals with emphases on job analysis, personnel selection and assessment, and/or survey research for full-time positions. Incumbents will work as part of a group of Industrial/Organizational (I/O) Psychologists, strategic consultants, survey researchers, and compensation professionals to drive human capital initiatives and strategies at NSA.

The ideal candidate will possess experience in one of the above areas and have exceptional skills in the areas of consultation, problem solving, report writing, and client/project management. Expert research design and analysis skills, attention to detail, and self-motivation are critical.

Example projects include:

- Designing and executing job analysis studies
- Developing and validating assessments for selection and development purposes (e.g., structured interviews, cognitive and non-cognitive measures, and knowledge tests)
- Developing and executing plans for evaluating the impact of EEOD programs
- Conducting EEO analyses for selection and promotion decisions
- Developing and analyzing workforce surveys (e.g., climate, quality of hire, skills assessments)
- Evaluating the impact of human capital programs
- Analyzing a variety of program-related data to drive strategic business decisions
- Contributing to basic and applied research projects

The ideal candidate would be expected to:

- Hold an MA/MS or PhD in Industrial/Organizational Psychology, Survey Research, Quantitative Psychology, or related field
- Collaborate with team members across the organization
- Develop strategic partnerships throughout the Agency, to help achieve organizational goals and needs
- Contribute to the conceptualization, design, analysis, and presentation of applied research (applying appropriate quantitative and qualitative research techniques, data collection strategies, data analysis methods) to inform technical and leadership decisions
- Keep abreast of best practices and new research in the I/O and human capital management fields
- Synthesize complex findings and detailed research into executive summaries and presentations intended for managerial decisions and/or publication

- Provide high quality customer service to clients through superior technical work as well as effective project management and communication
- Be proficient in relevant tools, such as MS Excel, MS Word, MS Power Point, and/or Statistical software (e.g., SPSS, R)

Qualifications
Below are the generic minimum qualifications for this work role. However, the ideal candidate would be expected to hold an MA/MS or PhD in Industrial/Organizational Psychology, Survey Research, Quantitative Psychology, or related field.

Salary Range: $96,970 - $148,967 (Senior)

- The qualifications listed are the minimum acceptable to be considered for the position. Salary offers are based on candidates' education level and years of experience relevant to the position and also take into account information provided by the hiring manager/organization regarding the work level for the position.

Entry is with a Bachelor's degree plus 6 years of relevant experience, or a Master's degree plus 4 years of relevant experience, or a Doctoral degree plus 2 years of relevant experience.

Degree must be in Applied Social Sciences or Applied Behavioral Sciences (e.g., Organizational Development, I-O Psychology, Business Administration, Human Resources Management, Sociology).

Relevant experience must be in social or behavioral sciences (e.g., organizational development, organizational effectiveness, performance improvement, test development and validation, social network analysis, or systems thinking), some of the experience must be current (i.e., within the past 2 years) and must include performing research and analysis and formal/informal leadership.

Salary Range: $134,789 - $164,200 (Expert)

- The qualifications listed are the minimum acceptable to be considered for the position. Salary offers are based on candidates' education level and years of experience relevant to the position and also take into account information provided by the hiring manager/organization regarding the work level for the position.

Entry is with a Bachelor's degree plus 9 years of relevant experience, or a Master's degree plus 7 years of relevant experience, or a Doctoral degree plus 5 years of relevant experience.

Degree must be in Applied Social Sciences or Applied Behavioral Sciences (e.g., Organizational Development, I-O Psychology, Business Administration, Human Resources Management, Sociology).

Relevant experience must be in social or behavioral sciences (e.g., organizational development, organizational effectiveness, performance improvement, test development and validation, social network analysis, or systems thinking), some of the experience must be current (i.e., within the past 2 years) and must include performing research and analysis and formal leadership or management.

How To Apply - External

To apply for this position, please click the 'Apply Now' button located at the top or bottom of this page. After completing the application and clicking the 'Submit Final' button, you will receive a confirmation email. Emails regarding your application status will be sent periodically. Please ensure your spam filters are configured to accept emails from noreply@nsa.gov.

***PLEASE NOTE:

U.S. Citizenship is required for all applicants. Reasonable accommodations provided to applicants with disabilities during the application and hiring process where appropriate. NSA is an equal opportunity employer and abides by applicable employment laws and regulations. All applicants and employees are subject to random drug testing in accordance with Executive Order 12564. Employment is contingent upon successful completion of a security background investigation and polygraph.

This position is a Defense Civilian Intelligence Personnel System (DCIPS) position in the Excepted Service under 10 U.S.C. 1601. DoD Components with DCIPS positions apply Veterans' Preference to eligible candidates as defined by Section 2108 of Title 5 USC, in accordance with the procedures provided in DoD Instruction 1400.25, Volume 2005, DCIPS Employment and Placement. If you are a veteran claiming veterans' preference, as defined by Section 2108 of Title 5 U.S.C., you may be asked to submit documents verifying your eligibility.

Please note that you will be asked a series of questions and your responses will be used as part of the screening process of your application. Your responses will assist in determining your eligibility for the position. Failure to provide the required information or providing inaccurate information will result in your application not being considered for this position. Only those applicants who meet the qualifications for the position will be contacted to begin employment processing.

DCIPS Disclaimer

The National Security Agency (NSA) is part of the DoD Intelligence Community Defense Civilian Intelligence Personnel System (DCIPS). All positions in the NSA are in the Excepted Services under 10 United States Codes (USC) 1601 appointment authority.
30+ days ago
- apply on company site

Data Scientist, AI and Machine Learning, ADOBE Inc.

Position summary * Adobe is looking for a Data Scientist to help build the web's next generation of products that will allow digital marketers to maximize revenue and expand their brand presence. The selected candidate will work on various development projects ranging from machine learning model development, to modeling algorithm implementation in production systems. Individuals in this role are expected to be comfortable working as a AI&ML scientist with knowledge and experience in AI, machine learning, or statistical learning.

Responsibilities • Collaborate with product management and engineering groups to develop new products and features • Be able to identify customers' needs and desires by specifying the research needed to obtain market information • Deliver informative and effective findings, results and recommendations from machine learning models to stakeholders, be able to create dashboards of important statistics and metrics • Develop and implement scalable and efficient modeling algorithms that can work with large-

scale data in production systems • Develop predictive models to address various business problems through leveraging advanced statistical modeling, machine learning, or data mining techniques.

Required Qualifications • MS or PhD degree in Computer Science or relevant technical fields. • Proficient in one or more programming languages such as Python, Java, C and etc. • Familiar with one or more machine learning or statistics tools/packages such as R, SciKitLearn, SparkML(MLlib), Tensorflow and etc. • Knowledge and experience of machine learning, statistical modeling, or AI techniques • Knowledge and experience of relational databases and SQL • Strong analytical and quantitative problem-solving ability. • Excellent communication, relationship skills and a strong team player. Preferred Qualifications • Experience with big data techniques (such as Hadoop, MapReduce, Hive, Pig, Spark) • Knowledge of cloud platforms (such as AWS or Azure) and experience of developing applications on the cloud platforms using various cloud services

At Adobe, you will be immersed in an exceptional work environment that is recognized throughout the world on Best Companies lists. You will also be surrounded by colleagues who are committed to helping each other grow through our unique Check-In approach where ongoing feedback flows freely. If you're looking to make an impact, Adobe's the place for you.

Discover what our employees are saying about their career experiences on the Adobe Life blog and explore the meaningful benefits we offer. Adobe is an equal opportunity employer. We welcome and encourage diversity in the workplace regardless of race, gender, religion, age, sexual orientation, gender identity, disability or veteran status.

Data Scientist, World Bank

The World Bank Group (WBG) twin goals of ending extreme poverty and promoting shared prosperity reflect a new global landscape: one in which developing countries have an unprecedented opportunity to end extreme poverty within a generation.

The big data program sits in the Global Operations Knowledge Management unit of the World Bank Group. The program works to accelerate capabilities in big data analytics, including machine learning, and applications in network analytics and text analytics to support the World Bank's knowledge strategy to improve operational and development effectiveness.

The data scientist will support an interdisciplinary team that delivers both technical assistance and knowledge activities to support World Bank Global Practices to put big data into action for development. The candidate will help test and incubate big data applications across several sectors, including pilots profiled in recent publication http://bit.ly/biginno . Further, we are seeking specialized skills in network and graph analytics for use in applications to improve and mobilize development knowledge and services within the World Bank, and toward emerging development applications in sectoral areas like trade, mobility patterns, and accessibility to jobs.

The solution areas the data scientist will support include, but are not limited to:
- Operational Applications: Topic modeling, natural language processing, and network analytics on development and organizational information to develop innovative and automated knowledge and data products and services to improve operational effectiveness
- Development Applications: Provide data science technical assistance to applied research projects to test and validate big data pilots that typically use non-traditional data sources and methods, including

social media, mobile phone, satellite, and ground sensor data and analytics for sectoral development applications like machine learning on big data sources to estimate poverty, to monitor crop yields, road conditions, and urbanization assessments

Note: If the selected candidate is a current Bank Group staff member with a Regular or Open-Ended appointment, s/he will retain his/her Regular or Open-Ended appointment. All others will be offered a 3 year term appointment.

Duties and Accountability:

The Data Scientist will work closely with colleagues in operations, knowledge functions, data units and Information Technology Solutions. Projects typically involve interdisciplinary teams, often comprised of sector specialists, development economists, geographers and technologists.

Candidates should be adept at extracting insights from complex analyses through computational techniques, developing analytic products through well documented and reproducible workflows, writing concise reports, developing compelling visualizations, communicating results clearly and working in teams.

The specific roles and responsibility include, but not limited to the, following:

1. Extract and analyze a wide range of development and operational knowledge using machine learning, network and text analytics to create knowledge and information products and services
2. Provide data science technical assistance to big data pilots in collaboration with Global Practices in sectors like Trade, Transport, Finance, Energy, Urbanization, Water, and Governance.
3. Support technical scoping, design solutions requirements, support selection and technical supervision of vendor contracts
4. Support efforts to develop robust methods for analysis, and to enhance big data technologies and tools.
5. Provide leadership to promote the use of big data analytics in the World Bank through talks, blog posts, presentations, knowledge activities, community of practice and global solutions groups
6. Collaborate with other World Bank groups to develop shared technical resources, frameworks and practices for big data and reproducible analytics, workflows and analytic products
7. Support existing partnerships and help form new partnerships with private sector, academia, UN agencies, and governmental agencies to further the use of big data for development.

Selection Criteria

1. Master's degree in a relevant discipline and 5+ years of relevant work experience. PhD will be a plus. Relevant disciplines include Computer Science, Economics, Statistics, Mathematics, Physics and other quantitative disciplines with strong computational elements.
2. Technical expertise and background – Experience in various aspects of data science: a creative problem solver with a strong understanding of statistics and research design. Excellent working knowledge of either R or Python. Excellent working knowledge of SQL and NoSQL systems and related approaches to large scale distributed computing. Strong understanding of network analytics, text analytics and machine learning methods and strategies.
3. Knowledge, Learning and Communication – Actively seeks knowledge needed to complete assignments and shares knowledge with others, communicating and presenting information in a clear and organized manner. Strong network with leading institutions (academic, private, and/or government) and established collaboration on big data topics.

4. Business Judgment and Analytical Decision Making – Analyzes facts and data to support sound, logical decisions regarding own and others' work.
5. Written and Verbal Communication – Delivers information effectively in support of team or workgroup. Good writing and editing skills, with a strong command of English and an ability to convey complex ideas in a clear, direct, and lively format.
6. Data Interpretation and Analysis – Able to demonstrate functional proficiency level sufficient to apply this competency to all tasks, including those with significant challenges with both structure and unstructured data.
7. Teamwork and Inclusion – Proven ability to collaborate with other team members across boundaries and contribute productively to the team's work and output, demonstrating respect for different points of view. Able to use strong interpersonal and teamwork skills to cultivate effective, productive client relationships and partnerships across organizational boundaries, to generate excitement and momentum around the Big Data Initiative.
8. Client Orientation – Able to take personal responsibility and accountability for timely response to client queries, requests or needs, working to remove obstacles that may impede execution or overall success.
9. Drive for Results – Able to take personal ownership and accountability to meet deadlines and achieve agreed-upon results, and has the personal organization to do so.

Sample Job Descriptions for DBA in Marketing Specialization

Business Analytic Manager, Product Marketing Strategy & Analytics
T-Mobile
Bellevue, WA

Full-time
Job Description
About Us We're a Bellevue, Wash. based national provider of wireless voice, messaging, and data, built on America's fastest 4G LTE Network. Now covering 308 million Americans, we are growing faster than ever, while abolishing the restrictions, runarounds, overages, and over-promises by other wireless companies. Join our revolution to change the wireless industry for good. We aren't afraid to break the rules, and we have fun doing it! Are you ready to lead the uncarrier movement to the next level? The Team We are the Commercial Strategy and Decision Analytics team - a high profile team of outside-the-box thinkers who bring unrivaled analytic horsepower and critical thinking to T-Mobile's product and marketing organizations. We define the critical metrics and perform deep analysis to ensure T-Mobile delivers on its customer obsession while crushing its performance goals. Are you an inquisitive individual and ready to unleash your intellectual curiosity?

Responsibilities
We are looking for a driven, self-starter with an analytical mindset who is passionate about delivering business value. You will help us build metrics and conduct deep analysis on the value and quality T-Mobile.com's digital experiences to accelerate conversion of prospective visitors into customers. You will influence business strategies and product direction to enhance our customers' experience. You will deliver actionable recommendations that ladder up to the larger strategy and vision for T-Mobile.com. You will drive the definition of T-Mobile.com key performance indicators; continually improve the level of understanding related to T-Mobile.com web experience and user interaction data. You are responsible for driving improvements in digital customer acquisition based on omni-channel analysis; measure or assist in measuring the value of our investments. You will construct executive level presentations and present complex analytical findings in clear, concise, and decision-impacting manner; execute on high profile analysis and deliver data narratives across business groups. You will develop and lead positive collaborations with one or more cross-functional teams.

Qualifications
- 5+ years' experience solving analytical problems using quantitative approaches.
- Fluent in SQL and comfortable with efficiently querying large databases.
- Experience defining efficiency and channel-level key performance indicators that are linked to enterprise level goals.

- Excellent prioritization skills, self-motivation and the capacity to work under tight deadlines.
- Willingness to learn and develop analytical skills in a fast growing and dynamic business.
- Advanced degree or higher in finance, economics, math, statistics or related quantitative or data intensive fields.
- Requires competency in customer focus, change & innovation, critical thinking, strategy and relationship building & influencing, talent management, results focus and inspirational leadership.
- Desired experience with statistical and statistical packages (R, SAS, Python).
- Experience with Adobe Data Workbench and Adobe Audience Manager.
- PhD degree in finance, economics, math, statistics or related quantitative or data intensive fields.
- Management consulting industry experience a plus.

Minimum Qualifications

At least 18 years of age. Legally authorized to work in the United States. High School Diploma or GED. Pre-employment background screen.

Company Profile

As America's Un-carrier, T-Mobile US, Inc. (NASDAQ: TMUS) is redefining the way consumers and businesses buy wireless services through leading product and service innovation. The company's advanced nationwide 4G and 4G LTE network delivers outstanding wireless experiences for customers who are unwilling to compromise on quality and value. Based in Bellevue, Washington, T-Mobile US provides services through its subsidiaries and operates its flagship brands, T-Mobile and MetroPCS. For more information, please visit http://www.t-mobile.com.

Marketing Science - Marketing Analytics and Strategy (MA&S)
Genentech
South San Francisco, CA

The Individual Contributor in Marketing Analytics and Strategy (MA&S) is a strategic thought partner to key stakeholders and an integral contributor to Genentech's commercial planning efforts.
He/she is responsible for providing strategic sales and marketing insights, leveraging primary market research methodologies to conduct qualitative and quantitative research across customer types.

MA&Sers work together with their peers whose expertise areas span:

- Market Research: applying primary market research methodologies to conduct qualitative and quantitative research across customer types.
- Forecasting: creating time-series and/or patient-based forecasts; conducting uncertainty analyses.
- Competitive Intelligence: monitoring and tracking competitive landscape; conducting threat assessment (including timelines and probability of launch assessments).
- Marketing Science/Data Scientist: designing and delivering advanced quantitative data analyses leveraging large/complex datasets.

The specific role we are recruiting for focuses on Marketing Science. However, all Individual Contributors have the opportunity to blend and extend their expertise on different initiatives to further develop both the breadth and depth of their capabilities.

Please note, the MA&S hiring process considers all applicants to all open roles. So even though there are multiple roles posted, please only apply to one MA&S requisition, and know that we will be assessing your candidacy for all open roles throughout the resume screening and interviewing process.

Major Responsibilities

- Work with Group Managers and Associate Directors to understand business needs and priorities, as well as immediate scope of work Provide technical/analytical expertise to team through secondary data analytics.
- Apply analytical and statistical methods to answer a variety of business questions using multiple data sources and technical tools.
- Monitor and assess the effectiveness of promotional efforts, projects, and practices and identify opportunities to optimize value of investments.
- Collaborate within cross-functional teams to develop solutions, gain alignment and deliver impactful business insights; engage necessary stakeholders to enable better decision-making.
- Openly share perspective and insights to elevate team thinking and drive a balanced, holistic point of view; effectively weigh and communicate trade-off considerations.
- Take an enterprise mindset, linking individual responsibilities with broader organization; focus on outcomes that provide most business value.
- Demonstrate self-accountability Look for opportunities for continuous improvement; engage managers and peer group regularly for coaching, assistance, and advocacy.
- Act as a thought partner and advisor to all relevant teams and stakeholders; look for and establish opportunities for peer mentorship.

Who You Are

In Individual Contributors, we are looking for people who are nimble, able to effectively collaborate and lend expertise to multi-functional teams and adapt quickly to competing priorities within their Franchise. We are also looking for people who are committed to continuing to make Genentech a great place to work, by seeking opportunities to develop their own and others' expertise through ongoing mentorship and coaching.

- "Self-starter"; strong sense of responsibility with demonstrable comfort in an entrepreneurial environment.
- Able to work effectively in a fluid, cross-functional matrixed environment and stand out as a successful collaborator.
- Strong interpersonal skills and a consultative mindset, with the ability to develop strong partnerships
- Good problem-solving ability, breaking down complex problems into distinct parts, managing uncertainty, understanding, anticipating interdependencies.
- Able to proactively "connect the dots" by asking thought-provoking questions.

- Objective when presenting insights and guiding decision-making; demonstrate good presentation skills by pairing sound analytics with storytelling.
- Motivated to continuously improve performance; outcomes-focused and driven to achieve objectives
- Able to lean in and manage through change.

Preferred Qualifications

We are recruiting across several levels. All roles require at least:

- Bachelor's Degree (Business, Economics, Statistics, Mathematics, or Physical Sciences or related field); MBA or Graduate-level Degree

Associate manager, MA&S:

- 2+ years of work experience with Bachelors; 1+ year of work experience with Masters; 0+ years of work experience with PhD/JD, preferably within pharmaceutical or biotech industry (commercial or clinical) and/or management consulting.

Manager, MA&S:

- 4+ years of work experience with Bachelors; 3+ year of work experience with Masters; 2+ years of work experience with PhD/JD, preferably within pharmaceutical or biotech industry (commercial or clinical) and/or management consulting.

Senior Manager, MA&S:

- 7+ years of work experience with Bachelors; 5+ year of work experience with Masters; 4+ years of work experience with PhD/JD, preferably within pharmaceutical or biotech industry (commercial or clinical) and/or management consulting.

Principal Manager, MA&S:

- 10+ years of work experience with Bachelors; 8+ year of work experience with Masters; 7+ years of work experience with PhD/JD, preferably within pharmaceutical or biotech industry (commercial or clinical) and/or management consulting.
- Deep expertise in at least one of the following areas: Market Research, Forecasting, Competitive Intelligence, Data Analytics, and / or Advanced Data Analytics.
- Strong knowledge of / experience working with SAS (Base SAS, Macro language, SAS/STAT, regression, T-tests, chi-square, experimental design, CHAID).
- Strong knowledge of secondary data sources including syndicated sales, promotional & marketing data, longitudinal patient level data; experience with payer data.
- Considerable experience and expertise with statistical modeling, analysis and presentation of results to a non-technical audience.
- Experience acting as a strategic thought partner to teams; Demonstrated ability to problem solve and think outside the box.
- Proven track record of leadership, time-management, project management, and teamwork.
- Expertise in standard analysis and presentation software (Excel, PowerPoint).
- Persuasive written and verbal communication skills.

- Strong attention to detail.
- Experience managing outside vendors.

Vice President, Digital & Marketing Analytics
Capital Group
Los Angeles, CA

Experience Level: Director
Other Location(s): N/A
Relocation offered: Yes
Travel required: a. Up to 25%

Come grow with us

At Capital Group, how we work is defined by shared values that include absolute integrity, respect and collaboration. But it's more than that. It's smart and highly driven people united in purpose to serve our investors and one another.

Bring your energy and unique perspective to Capital and you'll have the opportunity to grow with us professionally, personally, and financially. You'll be part of a team that genuinely cares about helping you succeed. You'll work alongside talented colleagues, many of whom build long careers while progressing through multiple roles, establishing lifelong friendships and making a difference in our communities. In return for your contributions, you'll receive premier compensation and benefits, and a company-funded retirement plan that ranks among the most generous.

Capital Group's Digital, Marketing and Analytics practices continue to evolve with an increased reliance on data to drive business outcomes. We are recruiting for a business and technology savvy, action-oriented leader to join our growing team as Vice President, Digital & Marketing Analytics. Based in Los Angeles and reporting to the Head of Analytics & Insights for North America, the successful candidate will continue to evolve and develop the marketing analytics function to provide exceptional analytical insights, act as evangelist for the use of data across all marketing processes and deliver advanced analytics and statistical modeling to identify new opportunities for business value through data. The successful candidate will own the overall development and evolution of the organization's marketing analytics capabilities. He/she will focus on solving marketing data challenges with big data tools and machine learning techniques that will influence the strategy and direction of digital and marketing.

Responsibilities

- Create actionable insights to enable the distribution organization to confidently design, plan, and deliver superior experiences that improve client engagement, drive sales and deliver cost efficiencies.
- Target and engage the right clients in the right channel through expertly applied client intelligence.

- Support business leaders across product, channel, and strategy teams on framing, designing, and conducting research and custom analytics to address their needs and priorities.
- Leverage data science to perform advisor and investor behavior studies, marketing attribution, marketing funnel analysis and other financial market topics.
- Integrate cross-channel data sets, including display, SEM, social, video, and mobile; determine appropriate KPIs/ROI measurement requirements for cross-channel campaigns; work with client-side data teams to coordinate/integrate data and systems as necessary.
- Create a pattern seeking and analysis capability that detects new or unknown patterns that signal changes that may impact marketing.
- Ownership and delivery of overall digital performance metrics and funnel performance; competitive intelligence and analysis of key digital metrics for financial services industry and key competitors.
- Partner with Head of Digital and Head of Content to support their team's core digital and content analytics needs.
- Support the organization's web transformation and lead the analytics and data science work to support personalization and advanced targeting; oversee media and audience targeting insights, forecasting and optimization.

Qualifications

- A minimum of 10+ years of experience in marketing analytics to include media mix models, multi-channel attribution and marketing strategy.
- Demonstrated experience in optimization that influences brand, marketing, and messaging strategy.
- Meaningful experience in solving marketing data challenges with big data tools and machine learning techniques.
- Adept at translating raw data into a compelling narrative with actionable recommendations that directly address key business needs.
- People management experience in leading and developing a high-performing team of marketing analytics and data science professionals.
- Experience with cloud data platforms; proficient in Adobe Analytics, R, Python and/or SQL
- Advanced degree required, PhD a plus.

Company Overview

Founded in 1931, Capital Group is one of the world's largest and most trusted investment management companies and home to the American Funds. We manage more than US$1.39 trillion in assets, and our 7,500 associates make our clients their first priority every day. When we do our job right, millions of investors around the world fulfill their dreams and financial goals, from home ownership and higher education, to a comfortable retirement. Our long-term investment results and outstanding service set us apart from our competitors, while our workplace sets us apart from other employers.

We are an equal opportunity employer, which means we comply with all federal, state and local laws that prohibit discrimination when making all decisions about employment. As equal opportunity employers, our policies prohibit unlawful discrimination on the basis of race, religion, color, national origin, ancestry, sex

(including gender and gender identity), pregnancy, childbirth and related medical conditions, age, physical or mental disability, medical condition, genetic information, marital status, sexual orientation, citizenship status, AIDS/HIV status, political activities or affiliations, military or veteran status, status as a victim of domestic violence, assault or stalking or any other characteristic protected by federal, state or local law.

Data Scientist
Capital One - US
McLean, VA

McLean 1 (19050), United States of America, McLean, Virginia

At Capital One, we're building a leading information-based technology company. Still founder-led by Chairman and Chief Executive Officer Richard Fairbank, Capital One is on a mission to help our customers succeed by bringing ingenuity, simplicity, and humanity to banking. We measure our efforts by the success our customers enjoy and the advocacy they exhibit. We are succeeding because they are succeeding.

Guided by our shared values, we thrive in an environment where collaboration and openness are valued. We believe that innovation is powered by perspective and that teamwork and respect for each other lead to superior results. We elevate each other and obsess about doing the right thing. Our associates serve with humility and a deep respect for their responsibility in helping our customers achieve their goals and realize their dreams. Together, we are on a quest to change banking for good.

Data Scientist

At Capital One data is at the center of everything we do. When we launched as a startup we disrupted the credit card industry by individually personalizing every credit card offer using statistical modeling and the relational database, cutting edge technology in 1988! Fast-forward a few years, and this little innovation and our passion for data has skyrocketed us to a Fortune 200 company and a leader in the world of data-driven decision-making.

As a Data Scientist at Capital One, you'll be part of a team that's leading the next wave of disruption at a whole new scale, using the latest in distributed computing technologies and operating across billions and billions of customer transactions to unlock the big opportunities that help everyday people save money, time and agony in their financial lives.

On any given day you'll be:

- Using Big Data tools (Hadoop, Spark, H2O, AWS) to conduct the analysis of billions of customer transaction records
- Writing software to clean and investigate large, messy data sets of numerical and textual data
- Integrating with external data sources and APIs to discover interesting trends

- Building machine learning models from development through testing and validation to our 30+ million customers in production
- Designing rich data visualizations to communicate complex ideas to customers or company leaders
- Investigating the impact of new technologies on the future of digital banking and the financial world of tomorrow

The Ideal Candidate will be:

- Curious. You ask why, you explore, you're not afraid to blurt out your disruptive idea. You probably know Python, Scala, or R and you're constantly exploring new open source tools.
- Wrangler. You know how to programmatically extract data from a database and an API, bring it through a transformation or two, and model it into human-readable form (ROC curve, map, d3 visualization, Tableau, etc.).
- Creative. Big, undefined problems and petabytes of data don't frighten you. You're used to working with abstract data, and you love discovering new narratives in unmined territories.

Twenty-five years after Capital One was started it's still led by its founder. Be ready to join a community of the smartest people you've ever met, who see the customer first, and want to use their data skills to make a difference.

Basic Qualifications

- Bachelor's Degree plus 2 years of experience in data analytics, or Master's Degree plus 1 year of experience in data analytics, or PhD.
- At least 1 year of experience in open source programming languages for large scale data analysis.
- At least 1 year of experience with machine learning.
- At least 1 year of experience with relational databases.

Preferred Qualifications

- Master's Degree or PhD
- At least 1 year experience working with AWS
- At least 3 years' experience in Python, Scala, or R
- At least 3 years' experience with machine learning
- At least 3 years' experience with SQL

Capital One will consider sponsoring a new qualified applicant for employment authorization for this position.

Analytics - Director
Merkle
Columbia, MD

Perform advanced analytics tasks, including but not limited to:

- Manages project tasks, timelines and deliverables.
- Manages and mentors junior analysts, contributing to their technical and career development.
- Manages relationships with other Merkle business units.
- Develops analytical solutions to client business problems.
- May pitch in the analyze and pull data or implement analytical solutions.

SME in the following techniques:

- Predictive statistical models.
- Customer profiling.
- Segmentation Analysis.
- Survey Design and Analysis.
- Data Analysis and Mining.
- Break-Even Analysis.
- Presents ideas and findings to clients.
- Participates in the sales process through solution development and responses to RFPs.
- Evaluates internal tools and processes.
- Anticipate project risk and constraints and proactively work on solutions to address the risk/constraints; Lead a team to complete large complex analytical project end to end.
- Demonstrate thought leadership; develop best practices, case studies, training class materials, whitepapers, present at industry conferences.
- Own one or multiple client analytical relationships or digital capability area with minimal support.
- Other duties as assigned.

Outcomes:

- Deliver projects on time.
- Deliver quality work.
- Manage junior team members to deliver projects correctly and on time.
- Proactive and responsive communication that results in team/client alignment.
- Client Satisfaction.
- Team engagement and retention.
- Develops a high performing team.
- Recognize and discuss additional opportunities related to Merkle Digital offerings.
- Successful financial management of a large or multiple mid-sized clients.
- Known as a thought Leader in Vertical or Solution space.

Skills:

- Experience with MS Office (Word, Access, Excel, PowerPoint, Outlook) required.
- Experience managing 10+ employees.
- Experience with SAS, SPSS and SQL,multi-variate statistics, logistic regression, multiple regression required.
- Excellent written and oral presentation skills.

- Ability to explain/present complicated/advanced analytical methodology and results to non-technical audiences.
- Ability to discover hidden insights or complex patterns through advanced multi-variate data mining techniques on un-structured business problems.
- Ability to execute advanced analytic tasks (including but not limited to modeling, segmentation, DOE, forecasting, etc.) and create meaningful analytical outputs.
- Ability to identify areas for statistical innovation or process improvement, do independent research, develop innovative approaches or processes/codes to 1) improve client business results, 2) improve efficiencies, 3) reduce potential errors.
- Ability to translate analysis insights into actionable recommendations and strategies for marketers.
- Ability to create robust analytics solutions to optimize marketing investments.

Qualifications:

- Must have experience with modeling and statistical concepts.
- Experiences with applying statistical techniques such as regression, ANOVA, cluster analysis, factor analysis, time series forecasting, experimental and design, etc. to solve business problems.
- Possess core database marketing knowledge such as understanding of Merkle and client data, relational database concepts, and direct marketing concepts.
- Possess core analytical competencies such as ability to formulate an analytical problem; QC data and results; Summarize key findings/insights; Make actionable recommendations; and develop new and innovative analytical solutions to solve challenging business problems.
- Understanding of digital data including the systems and processes used to generate and manipulate it by media type web, ad, email, mobile, etc.
- Development of specific expertise areas within digital and sharing of that expertise through MU classes, white papers, articles, conference presentations, etc.
- Recognized as a thought leader in a specific digital area.
- Possess client/team engagement competencies such as gather specifications, develop analytical roadmap and approach and manage expectations, and coordinate delivery with internal team.

Other:

- Bachelor's Degree (B.S.) or equivalent in statistics, math, economics or related scientific/quantitative field plus several years' experience in applied disciplines; advanced degree (M.A., M.S., Ph.D.) preferred.
- Minimum of 10+ years of experience in quantitative marketing arena, in database and/or digital (addressable) marketing.
- Contribute to innovation, process improvement, standardization.
- Deliver high-quality analytical solutions on time.
- Develop project plan, program plan, or overall roadmap; manage individual/team day-to-day tasks; and meet project deadlines.
- Work effectively across teams to ensure client satisfaction.
- Engage, manage and lead a team (including geographically dispersed).
- Recruit, hire, develop and retain "A" players.

- Deliver constructive feedback to employees and hold difficult conversations with direct reports.
- Support resource deployment/re-deployment to be able to staff and adapt to resourcing challenges.
- Sponsor, support, and/or lead MS initiatives.
- Own one or multiple client analytical relationships or digital capability area(s) with minimal support.
- Support sales by providing analytical solution scope/methodology/level of effort/pricing and giving sales presentations.

Associate PhD
Cornerstone Research
Washington, DC

Who We Are

Cornerstone Research is a leading economic and financial consulting firm with more than 500 staff members across eight offices. Together with an extensive network of internationally prominent faculty, we conduct rigorous, objective research applying the highest standards from academia to address complex financial, economic, accounting, and marketing issues that arise in litigation and regulatory investigation.

Cornerstone Research is involved in a broad variety of high-profile legal cases and disputes. Current matters focus on such topics as capital markets, business and securities valuation, M&A and corporate events, risk management, market competition, the impact of marketing on consumers, and patent infringement. For example, we address issues affecting the ongoing development of financial markets, such as applying the intersection of finance and industrial organization economics to evaluate price setting in derivative markets. Beyond the financial markets, we address financial economics issues arising in a range of sectors, from such innovation-driven industries as life sciences and high technology to energy, telecommunications, and industrial markets. We address economic issues when evaluating potential mergers, claims of anticompetitive conduct, and the impact of intellectual property infringement. We also address marketing and economic issues arising in cases with allegations of misleading marketing or false claims. More detail can be found on our website at www.cornerstone.com.

Associates at Cornerstone Research

Cornerstone Research provides an interesting and rewarding work environment. Those joining our firm enjoy long-term career opportunities supported substantially by our investments in their professional development and an escalating compensation structure. Associates work at the core of our client project teams and in the development of our practice, assuming increasing levels of responsibility. The firm has grown steadily over more than twenty-five years and we maintain a firm culture that is collegial, supportive, friendly, and collaborative.

We benefit from close collaboration with renowned leading academics in finance and economics. Associates help devise and apply innovative analytical approaches meeting the highest academic standards to address challenging issues arising in our work. We invest heavily in leading edge information resources and computing capabilities, and often have access to proprietary data to inform our analysis. Associates help guide teams supported by our outstanding research analysts.

Career development includes staying attuned to – and contributing to the development of – the latest academic research. Associates continue to hone their own research skills while building communications and managerial abilities. The firm supports the development of those interested in becoming testifying experts in some or all of their work, and of those not choosing that path. Either approach provides opportunities for career advancement.

Candidate Profile

Cornerstone Research provides exceptional career opportunities for those who have pursued doctoral studies in finance, economics, accounting, or marketing. Casework at Cornerstone Research challenges Ph.D. candidates to apply the entire breadth of theoretical and empirical skills gained through their doctoral training. Candidates must have the ability to apply academic research to real-world issues and present concise explanations of complex analyses. The ideal candidate has demonstrated strong analytical, communication, and teamwork skills. We offer an industry-competitive compensation and benefits package.

Interested candidates should please refer to the How-to-Apply section of our website for information on required application materials. We are currently hiring in our Boston, Chicago, Los Angeles, Menlo Park (CA), New York, San Francisco, and Washington, DC offices. We will be interviewing at the ASSA/AEA annual meetings in January 2015.

Cornerstone Research provides Equal Employment Opportunities to all employees and applicants for employment without regard to legally protected categories, such as age, sex, gender, gender identity, race, color, creed/religious belief, medical condition, predisposing genetic characteristics or genetic information or testing, disability, marital status, pregnancy status, military status, veteran status, arrest or conviction record (except where permitted by law), sexual orientation, ethnic background, citizen status, ancestry, national origin, or any other consideration protected by federal, state or local law.

Data Scientist / Predictive Modeler
C2G Partners
Ellicott City, MD

Dynamic, Entrepreneurial Consulting Company seeking Data Scientists! If you've got entrepreneurial spirit and passion, are driven by results, and want to be a part of significant growth, we're looking for you!

C2G Partners (C2G) is recognized as an award-winning consulting firm and has provided services to some of the world's best known and most respected organizations. While C2G has worked primarily with clients that are Fortune 500 and mid-sized companies, we also extend services to smaller businesses and non-profits.

C2G is a marketing and analytic consulting company that places consultants in highly strategic marketing and analytic roles, and one of the fastest growing Inc 5000 companies.

If you are ready to embrace the challenge and would like to join our team as one of our Data Scientists, please keep reading!

As Data Scientists, we work with business leaders to solve clients' business challenges and improve clients' business results using advanced analytics techniques. We contribute our Advanced Data Science subject matter expertise to the recommendations and solutions delivered to our clients.

We spend most of our time on getting data into proper shape, performing statistical analyses, developing predictive models and machine learning algorithms to solve clients' business problems. We evaluate different sources of data, discover patterns hidden within raw data, create insightful variables, and develop competing models with different machine learning algorithms. We validate and cross validate our recommendations to make sure our recommendations will perform well over time.

Main Responsibilities

- Work with practice leaders and clients to understand clients' business problem, industry context, data sources, potential risk and constraints.
- Problem solve with practice leaders to translate the business program into a solvable Data Science problem, formulate different approaches, outline pros and cons for each approach.
- Work with practice leaders to get client feedback, get alignment on approaches, deliverables, and overall timeline.
- Develop a project plan including key milestones, timeline, and contingency plan.
- Gather data from client and external data vendors.
- Perform data cleaning/hygiene, data QC, and integrate data from both client internal and external data sources on Advanced Data Science Platform.
- Conduct statistical data analysis, including exploratory data analysis, data mining, and document key insights and findings.
- Create insightful and/or predictive summary variables from granular-level data.
- Develop, validate, and cross-validate predictive models and/or machine learning algorithms using Advanced Data Science techniques and tools.
- Document predictive models / machine learning results that can be incorporated into client-deliverable documentation.
- Document key insights, recommend actions client could take, and quantify business impact.
- Assist client to turn models and algorithms into implementable production codes.

Qualifications:

- MS or PhD degree in Statistics, Math, Operation Research, Economics, Advanced Analytics, Computer Sciences, Engineering.
- 1-10 years' professional experience in Advanced Data Science, such as predictive modeling, statistical analysis, machine learning, text mining, geo-spatial analytics, time series forecasting, optimization.
- Experience with one or more Advanced Data Science software languages (R, Python, Matlab, SAS, Perl, Java, PHP).
- Experience with structured or un-structured data analysis and tools (SQL, Hadoop, Spark, NoSQL, MySQL, MariaDB, Hive, Pig, etc.).
- Comfortable with cloud-based platforms (AWS, Azure, Google).
- Experience with Google Analytics, Adobe Analytics, Optimizely a plus.
- Experience in digital marketing a plus.
- Experience with PBM or Healthcare Payer data a plus.

*This role will require 30-40% travel

Sample Job Descriptions for DBA in Finance Specialization

Cornerstone Research
Associate

Work at Cornerstone Research provides Associates with opportunities to use theoretical and empirical research skills gained through their graduate-level training to devise and apply innovative and rigorous analytical approaches to interesting real-world problems. The outcomes of our cases can have a direct and immediate impact on public policy and corporate strategy.

Associates at Cornerstone Research play a central role in developing project strategy, conducting research, directing analysis, understanding and interpreting data and key findings, and proposing effective approaches to the problems faced by their teams. Associates work closely with senior staff, clients, and experts to define objectives, guide research efforts, manage deadlines and mentor junior staff.

Cornerstone Research provides an interesting and rewarding work environment. Those joining our firm enjoy long-term career opportunities supported by our investments in their professional development and an escalating compensation structure, including an industry-competitive salary and benefits package. Career development includes staying attuned to - and contributing to the development of - the latest academic research. Associates continue to hone their own research skills while building communications and managerial abilities. The firm supports the development of those interested in becoming testifying experts in some or all of their work, and of those not choosing that path. Either approach provides opportunities for career advancement.

CANDIDATE PROFILE: We seek candidates who have pursued doctoral studies in finance, economics, econometrics, accounting, or marketing, and who have graduated or will be graduating in the coming year. Candidates must have the ability to apply academic research to real-world issues. We are currently hiring in our Boston, Chicago, London, Los Angeles, Silicon Valley (Menlo Park, CA), New York, San Francisco, and Washington, DC offices. Cornerstone Research will provide immigration assistance to eligible foreign nationals in accordance with the firm's immigration policy and applicable law.

Cornerstone Research
Senior Economist

Cornerstone Research provides an interesting and rewarding work environment. Those joining our firm enjoy long-term career opportunities supported by our investments in their professional development and an escalating compensation structure including an industry-competitive salary and benefits package. Senior Economists work at the core of our client project teams and in the development of our practice, assuming increasing levels of responsibility. The firm has grown steadily over more than twenty-five years and we maintain a firm culture that is collegial, supportive, friendly, and collaborative.

We benefit from close collaboration with leading academics in finance and economics. Senior Economists help devise and apply innovative analytical approaches meeting the highest academic standards to address

challenging issues arising in our work. We invest heavily in cutting edge information resources and computing capabilities, and often have access to proprietary data to inform our analysis. Senior Economists help guide teams supported by our outstanding research analysts.

Career development includes staying attuned to - and contributing to the development of - the latest academic research. Senior Economists continue to hone their own research skills while building communications and managerial abilities. The firm supports the development of those interested in becoming testifying experts in some or all of their work, and of those not choosing that path. Either approach provides opportunities for career advancement.

CANDIDATE PROFILE: Cornerstone Research provides exceptional career opportunities for those who have pursued doctoral studies in finance, economics, accounting, or marketing. Casework at Cornerstone Research challenges Ph.D. candidates to apply the entire breadth of theoretical and empirical skills gained through their doctoral training. Candidates must have the ability to apply academic research to real-world issues, present concise explanations of complex analyses, and independently manage projects and junior staff. The ideal candidate has at least three years of academic and/or nonacademic work experience; and has demonstrated strong analytical, communication, and teamwork skills. We offer an industry-competitive compensation and benefits package.

DFA Senior Researcher

Job Description:

The Research group at Dimensional is integral both in the successful day-to-day functioning of the firm and in helping develop Dimensional's long-term strategy. The team produces high-quality, thought-leadership research on investments and financial markets that is of interest to and helps educate clients. Research is also involved in the design and development of the firm's investment approach and the application of that approach through portfolio management and trading.

We are seeking an experienced Sr. Researcher for our Charlotte office to help deliver these key services. Sr. Researchers are expected to produce high-quality, academically grounded research to support and enhance our investment strategies and for client education. Research findings are shared through white papers and presentations in Dimensional seminars and conferences.

Responsibilities:

- Conduct rigorous empirical research related to portfolio structure and implementation, run historical simulations, perform regression, attribution and characteristics analysis, conduct econometric tests to evaluate the impact of different portfolio construction and implementation approaches on expected performance, costs and diversification of our investment strategies.
- Represent Dimensional at client conferences, meetings and events; speak to the firm's investment philosophy, outlook and performance, and promote the Dimensional investment management story to internal and external audiences.
- Facilitate customer meetings/conferences to elicit relevant feedback and uncover customer motivations, values, and mental models.
- Oversee collaboration efforts with portfolio management, trading, and client service teams on the design of new strategies, enhancements to existing strategies, and aspects of portfolio management and trading.
- Direct and coordinate research efforts across teams; recognize where re-direction is needed and articulate actionable project recommendations.

- Keep abreast of trends in technology, quantitative finance, capital markets and regulation; recommend and implement new techniques to promote operational effectiveness and minimize inefficiencies.
- Support special projects and initiatives for Research and other departments on an ad hoc basis.

Qualifications:

- A Ph.D. in a discipline such as finance, economics, mathematics, statistics, or a related field.
- 4+ years' experience in a quantitative research role in a financial services or academic environment.
- Extensive experience doing empirical research with large datasets.
- Advanced proficiency in database and statistical software (SAS, Stata, R, or Metlab) and programming languages (SQL, C, C++, Fortran, Java, etc.)
- Excellent ability to communicate financial and economic concepts, in both verbal and written form; able to deliver presentations in an articulate and convincing manner.
- Ability to independently complete research projects, from idea generation to paper publication or strategy implementation.
- Demonstrated success in developing and implementing creative strategies and initiatives
- Ability to resolve problems effectively and exercise independent judgement
- Motivated to self-teach skills and apply learned knowledge to applicable tasks
- Ability to operate and prioritize in a fast-moving & demanding environment and deal with complex situations.

GSS Equities Researcher - Vice President at AQR **Greenwich, CT**

About AQR Capital Management

AQR is a global investment firm built at the intersection of financial theory and practical application. We strive to deliver concrete, long-term results by looking past market noise to identify and isolate the factors that matter most, and by developing ideas that stand up to rigorous testing. By putting theory into practice, we have become a leader in alternative strategies and an innovator in traditional portfolio management since 1998.

At AQR, our employees share a common spirit of academic excellence, intellectual honesty and an unwavering commitment to seeking the truth. We're determined to know what makes financial markets tick – and we'll ask every question and challenge every assumption. We recognize and respect the power of collaboration, and believe transparency and openness to new ideas leads to innovation.

About The Team

The Global Stock Selection (GSS) group is responsible for the portfolio management and research of AQR's strategies relating to individual equities and equity related securities across all global liquid markets. GSS models are applied to market-neutral long/short portfolios in AQR hedge funds as well as to long-only, relaxed-constraint and low volatility portfolios for institutional equity mandates and mutual funds.

Your Role

AQR Capital Management is seeking a talented Vice President level Researcher to join our team focusing on our proprietary strategies related to global stock selection and asset allocation. Candidates should be

motivated and enthusiastic about implementing new ideas and are expected to be hands-on and self-sufficient in conducting all aspects of research projects. The role will involve collaboration with other researchers, portfolio managers, risk managers and traders to develop new and improve current investment strategies.

Your responsibilities may include, but are not limited to:

- Perform statistical and economic research using financial data to develop new, and improve current investment strategies in collaboration with existing research teams
- Conduct research on various aspects of the implementation of investment strategies such as trading cost models, risk models, optimization, and portfolio construction
- Add features to proprietary research system to implement new research ideas

What You'll Bring

- Advanced Degree in Math, Statistics, Economics, Econometrics, Operations Research or Finance
- 5+ years' of related experience covering systematic equities research within in a similar financial environment
- Experience working in a similar quantitative or technical environment
- Experience using programming skills to manipulate large financial data sets for empirical research. Strong skills in one or more high-level languages required, with Python or Java preferred.
- Strong quantitative skills with demonstrated understanding of mathematics, probability, statistics and linear algebra
- Strong understanding of economic and financial concepts and demonstrated intuition around applying these concepts in a quantitative environment
- Demonstrated ability to express and articulate ideas and thought processes in both verbal and written form
- Ability to work independently as well as part of a team

Response to the Questions from the Graduate PCC

1. **Please describe student engagement with faculty given the low number of FTE faculty members.**

   While we allocate only one (two) FTE in the budget for the first (second) year (and we increase the allocation to four FTE as the size of the cohort grows to a steady state in the third year), a group of FTE faculty will be involved and engaged with the students in the DBA program. We should emphasize that the DBA program is a relatively small program – we expect to start with a cohort of about 5 students in *each* specialization in the first year (i.e., a total of around 15 students across the three areas of specialization in the program). Over time, the cohort size for each area may grow to a maximum of 10, but we envision an average size of 4-6 students at least during the early stage of the program.

   Given the relatively small size of the DBA program (about 15 students the first few years and 18 as it grows), this would not be a heavy drain of our faculty resources. We should note that due to budget constraints our PhD program has shrunk significantly over the past few years – the Smith School had close to 100 doctoral students, and the number has dropped to about 80 in the past two years. For example, our marketing area used to have about 12-15 doctoral students and they currently have only 7. The size of the faculty, however, has not changed. With this decrease in the size of our PhD programs, there is room for faculty involvement with the DBA program. Much of the faculty involvement would be in the form of student advising (or independent study), which does not require additional funding for faculty. We provide additional details below.

   Specifically, while the nature and the intensity of faculty advising is different across the PhD and DBA programs, there are many similarities. Our tenure-track and tenured faculty that work specifically with our PhD students view the advising component (e.g., mentoring and overseeing student research projects/summer papers, serving on and chairing doctoral dissertations) as part of their teaching and research commitment. Advising our doctoral students on research projects and dissertations is not viewed as a separate "load" – we do not get teaching credit (or other forms of compensation) for mentoring and advising our doctoral students because it is part of our research mission.

   Similarly, we view the advising of the capstone projects in the DBA program (analogous to the advising of dissertations in the PhD program) also as part of the Smith School's research mission, and hence, much of the faculty engagement with the DBA students would not require additional funding. As discussed in the presentation to the PCC meeting, we believe the DBA program will enhance the Smith School's industry engagement and help bridge the academic-practice divide. The industry engagement can be tremendously valuable to our research faculty and to the Smith School's research mission as it provides opportunities to build long-term relationships with industry leaders (and potentially gain

access to proprietary data for future research). Moreover, the DBA capstone project focuses on applied research (e.g., a case study), which by nature is less intensive than a dissertation. In short, we anticipate that the level of advising and resources required to oversee capstone projects would be lighter than those required for dissertations, which can be sufficiently covered by the extra faculty resources resulting from the significant drop in the size of our PhD program.

Follow-up questions about faculty engagement with PhD students outside of their normal teaching load:

Do students sign up for research credits? Do your faculty not count those credits in their workload?

In the PhD Program, students do sign up for 898 and 899 credits, which are assigned to faculty. While students do receive credits, these credits are not counted towards faculty's normal workload within the business school (i.e., they do not count towards our teaching load). The 899 credits do count for the state requirement. This is the same for the BDBA829 Capstone Project credits. Also, if faculty do take on DBA students for independent studies, it will be counted towards advising credits and not part of their workload. This is similar to when faculty take on MBA students for independent studies – faculty do not get any teaching credit, but these credits are counted towards the state teaching requirement.

Regarding the courses that will be cross-listed across the DBA and PhD programs, we have a separate set of DBA prefix, which will allow us to set up separate sections to keep track of the fraction of DBA students. Our budget incorporates a line item (item 8 on the expense tab) for the cost sharing. Our calculation is based on the following estimates:

> Of the 42 credits (the upper bound across the first two years), about 1/3 (2/3) would be cross-listed with the PhD (Masters) program. This translates into 7 (14) credits for the first year (over the two years when the students have coursework). Assuming a cost of $10,000/credit (closer to an upper bound), the cost of the shared courses in the first year would be $70,000 (and from Year 2 onward $140,000). We expect roughly 50% of the students in the cross-listed courses would be DBA students, and hence, the cost share for Year 1 will be $35,000 (and from Year 2 onward $70,000).

2. **Please explain how faculty will be funded for advising a student's capstone experience.**

As discussed above, much of the faculty advising in the DBA program is similar in nature to that in the PhD program, and hence, it does not require additional funding. The DBA coordinator for each of the three areas of specialization will take on the role as the main advisor. In this role, he/she will not only oversee the students' capstone projects, but will also serve to match each student with the right group of faculty who will serve as additional

advisors on the capstone project. The faculty coordinator from each area will receive 3 credits, which, in total, would be equivalent to less than one FTE (i.e., 4 x 3 credits => 1 FTE).

Follow-up questions about faculty workload and credits:

Are you anticipating that the DBA will be run as an entrepreneurial program? If so, then faculty teaching the DBA students will not be doing so as part of their normal workload requirement. How will this be parsed, in particular in those courses that are shared between the two programs?

The DBA program is expected to be a self-funded program, with sufficient revenue to cover all the expenses. We expect about 2/3 of the credits will overlap with existing courses from the Master's or the PhD programs. For the courses that are cross-listed with existing PhD courses, we expect the marginal costs would be minimal. This is because the class size of our existing PhD courses is relatively small, but the teaching load for PhD courses are counted the same as other courses with more students. Hence, there is excess capacity for the faculty who teach in these courses to service the DBA students. For the courses that are cross-listed with existing Master's courses, the cost share would be determined based on the percentage of DBA students. Given that most courses in the Master's program have 40-60 master's students, and that the expected number of DBA students in each area of specialization is 5-7, the expected cost share will be roughly 10%.

3. **How many new courses need to be created for each specialization in the DBA?**

   We expect about 1/3 of the total credits would be newly created for each specialization in the DBA program (i.e., roughly 18 out of 54 credits). The 18 credits will include two special topic courses in each specialization (2x3 credits) and the Capstone Project course (BDBA829:12 credits). BDBA829 will be the Capstone Project course. The special topic courses include: BDBA857 (A-Z), BDBA858 (A-Z), BDBA747 (A-Z), BDBA748 (A-Z), and BDAB708 (A-Z). These courses may change over time to reflect the current trends in real world business applications. For your reference, please see the attached excel spreadsheet (1 DBA Courses Number Update.xls) for a more detailed listing of the courses, with the special topic courses highlighted in yellow in the three specialization tabs.

4. **Please provide a location-specific market demand analysis for the DBA as it relates to demand in the MD/DC/VA area.**

   We conducted an industry analysis for the DBA program during early stages of the proposal (see 8_industry analysis). This analysis provides detailed statistics on employment projections by occupations as well as geographic areas from the Bureau of Labor Statistics (BLS). As indicated in the report, Maryland, DC, and Virginia consistently come up as the

top geographic areas for the occupations (e.g., information research scientists, information system managers, social scientists) that a DBA is most relevant.

In addition, the Bureau of Labor Statistics indicates that 1) DC and Virginia are two of the top states in the US employing management level positions with annual wages in the six figures, and 2) the "Washington-Arlington-Alexandria, DC-VA-MD-WV" is one of the top metro areas for employing management level positions again with a six-figure annual wage.[1]

The local area demand is further highlighted by a 2016 report "Trends in Workforce Demand" conducted by the Metropolitan Washington Council of Governments.[2] This report charts the job growth in the Metropolitan Washington DC area as well as compares to the national averages of job growth. Most specifically, the DC/MD/VA region has seen a 14% job growth rate in Education and Health Services and 6% growth rate in both Professional and Business Services and Trade, Transportation and Utilities. By specifically drilling down the Professional and Business Services industry cluster, we see growth specifically in the Management, Scientific and Technical Consulting Services. It further shows that the top industries in the DC/MD/VA area are Accenture, Booz Allen Hamilton, and Deloitte. These companies are specifically known to prefer individuals with PhD's or DBA's for their executive and top research positions.

The DBA will focus on three areas of specialization that reflect these same job growth trends in the DC/MD/VA. The Finance specialization will provide the skill set required by not only the top industries identified above but also by the highly regarded employers at the IMF, Cornerstone Research, World Bank, and the Federal Reserve Board. The Information Systems area of specialization would provide individuals with business analytics expertise and expand on project management training. These skills are specifically regarded by companies such as Booz Allen Hamilton. The Marketing area of specialization will also expand on marketing analytics and consumer behavior within an industry and management perspective. With the development of Amazon's H2Q coming to the Washington DC area metro, we anticipate that these skills in all three areas of specializations will be highly coveted. Employers may even work with their current employees in sponsorship of the DBA education.

Additionally, we have tracked the performance of a similar program offered by Virginia Tech's Pamplin College of Business at the Falls Church campus, which has grown to 35 students over three years, with many students in the governmental agencies enrolling in these programs. In a market study conducted by the faculty at Virginia Tech, which surveys around 200 mid-level professionals/executives within the DC area in Federal government agencies and government contractors, reveals a 5-7% interest level. We should note that this reflects

[1] https://www.bls.org/ooh

[2] https://wtop.com/wp-content/uploads/2016/05/312455432-The-Trends-in-Workforce-Demand-Report-by-the-Metropolitan-Washington-COG.pdf

the potential demand for only a subsample of the government sectors (and only in the DC area), and hence, the evidence for demand is encouraging. Anecdotally, we have gauged potential interest from our advisory board members and have found there is strong demand to upskill and apply data science in their corresponding fields.

Lastly, we also conducted some benchmarking of the DBA programs from several peer institutions – see attached Excel spreadsheet titled, "6_DBA Benchmark Data."

Taken together, this data provides clear indication that there is increasing demand for DBA programs in the recent years, with the DC metropolitan area containing a particularly strong demand.

5. **How realistic is it for working executives to complete four seminars a semester?**

   We expect 90% of the DBA cohort will be part-time students, and hence our courses will be primarily in the evenings and on the weekends. Some of the courses will be cross-listed with existing courses in the Master's program, which already offer sections with evening and weekend options. During the first two years, students will on average take 10 credits each semester. This is similar to the current model for our part-time MBA students, which take 8-10 credits each semester, with two courses in each 7-week term over a 14-week semester. The DBA program will be structured similarly – i.e., students will generally take no more than two courses (or two courses plus an independent study) at any point in time during the first two years. A majority of our part-time MBA students also work full-time and are able to manage this schedule. Additionally, we should note that the schedule for the special topic courses and independent studies, which can be 1-4 credits, is more flexible.

6. **Please describe how full-time and part-time students will be accommodated in terms of course load, scheduling and modality (online vs. on-campus).**

   We assume that 90% of the DBA students will be part-time. The preference is that all courses are expected to be in person and on campus (College Park). However, just as we adjusted to the current climate, courses can have blended learning components. Currently, some of the course work that will be cross-listed for the DBA program is offered on evenings and weekends. Since many of the courses already exist and offer various sections, DBA students will have the same options, whether they are part-time or full-time.

7. **What is the maximum number of years it would take a student to complete this program?**

   Full-time DBA students are expected to complete the program in 3 years. Part-Time DBA students are also expected to complete the program in 3 years, but with some options extend to four years. No student will be allowed to take more than 5 years to complete all required courses in the program.

8. **How will issues of intellectual property work with the capstone projects?**

   UMD Legal has created proforma and official agreements, which are routinely used for undergraduate and graduate students working on experiential learning projects. These would be used for students utilizing data from their companies or any other companies.

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