

# GROWING THE NEXT GENERATION OF ANALYTICS PROFESSIONALS

Jerry L. Oglesby, Ph.D.  
Senior Director



## TOPICS

- Introduction
- Business Analytics/Big Data
- Need for analytics professionals
- Global Academic Program
  - SAS OnDemand software
  - Areas of support

# Business Analytics

- What is it?
- The use of statistical analysis, data mining, forecasting, and optimization to make critical business decisions based on customer and operational data.
- Critical problems are often characterized by
  - » **massive amounts of data**
  - » **need for rapid decisions and high performance computing**
  - » **need to apply techniques from multiple disciplines**

# Common Factors in Analytical Problems

Large data volumes needing

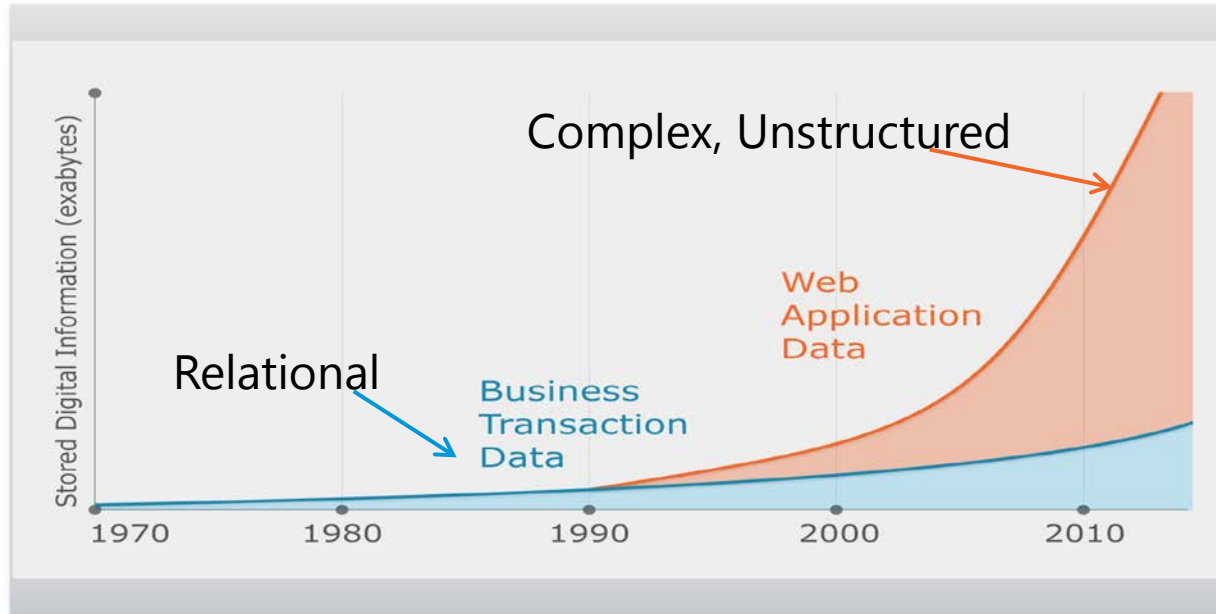
- Flexible models
- Powerful algorithms
- Effective visualization techniques
- Easy deployment to enable wider access to the power of analytics

# Growth (and Value) of Unstructured Data



***How to manage and make sense of it?***

# What is “Big Data”?



- Three Vs?

Volume

Velocity

Variety

Source: An IDC White Paper - sponsored by EMC. As the Economy Contracts, the Digital Universe Expands. May 2009.

# Data Are Driving the Demand for Analytical Experts

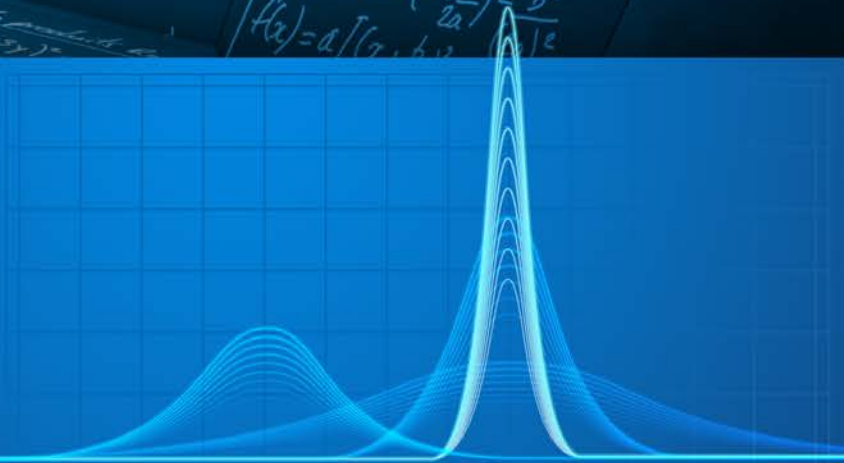
- Critical business problems are increasingly characterized by large volumes of data and the need for rapid analysis.
- Organizations are competing on analytics, and they value data and analytics as strategic assets.
- There is a global demand for analytical experts who can
  - » **Formulate and solve problems using a broad ensemble of methods**
  - » **Collaborate with interdisciplinary teams on analytical software solutions**



Davenport and Harris

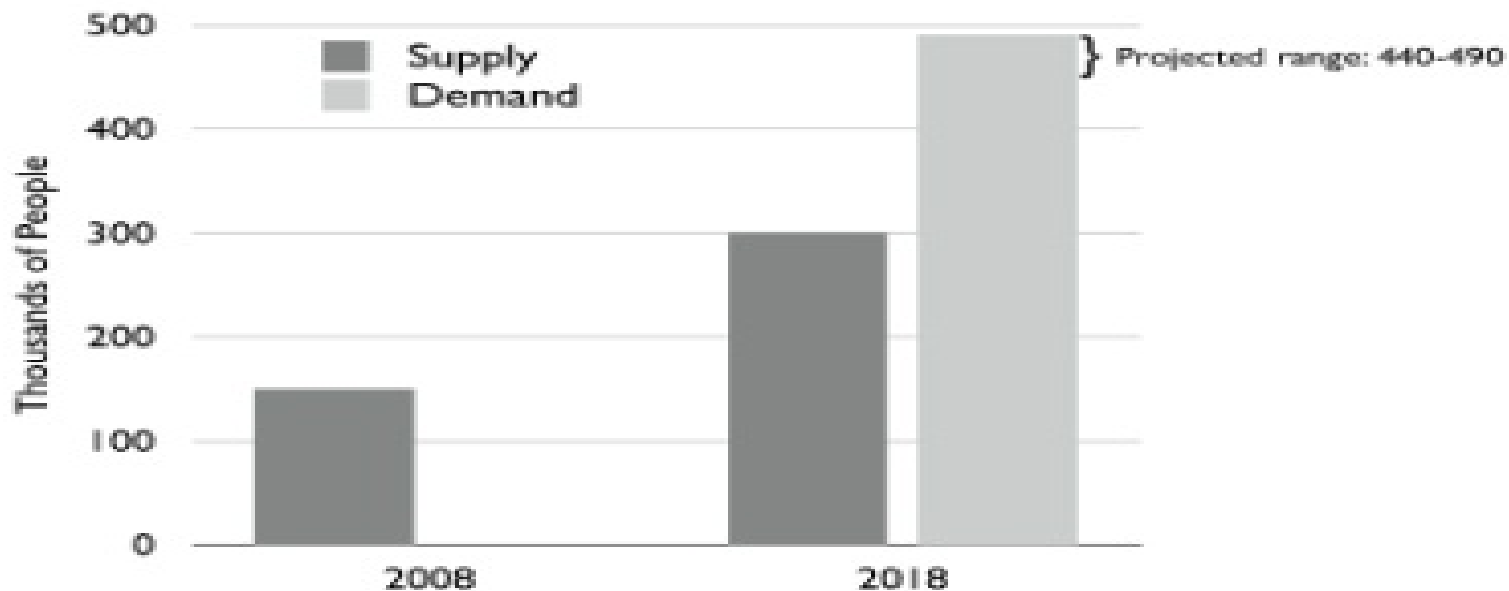


ESTABLISHED  
NEED



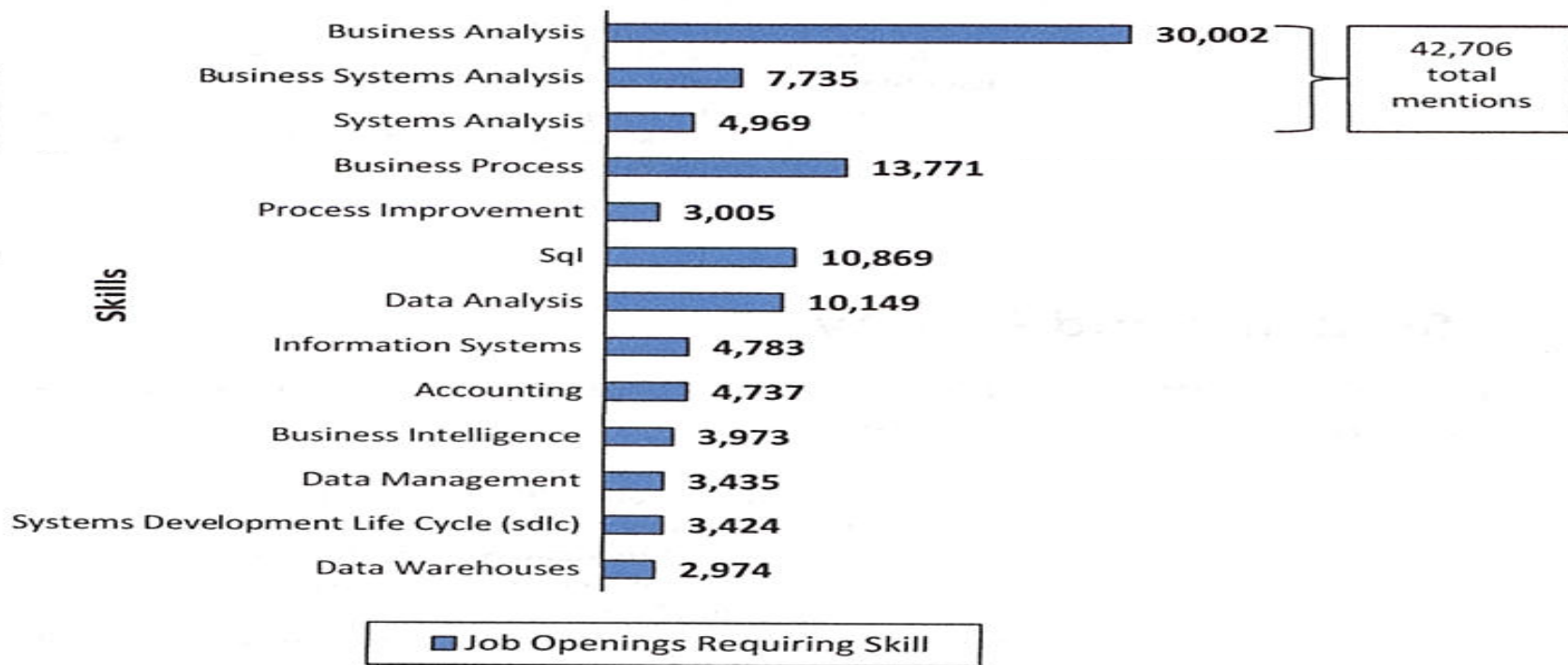


## **Demand for deep analytical talent in the U.S. could be 50-60% greater than its projected supply by 2018**



**Source: McKinsey Global Institute, *Big Data: The Next Frontier for Innovation, Competition and Productivity* (May 2011)**

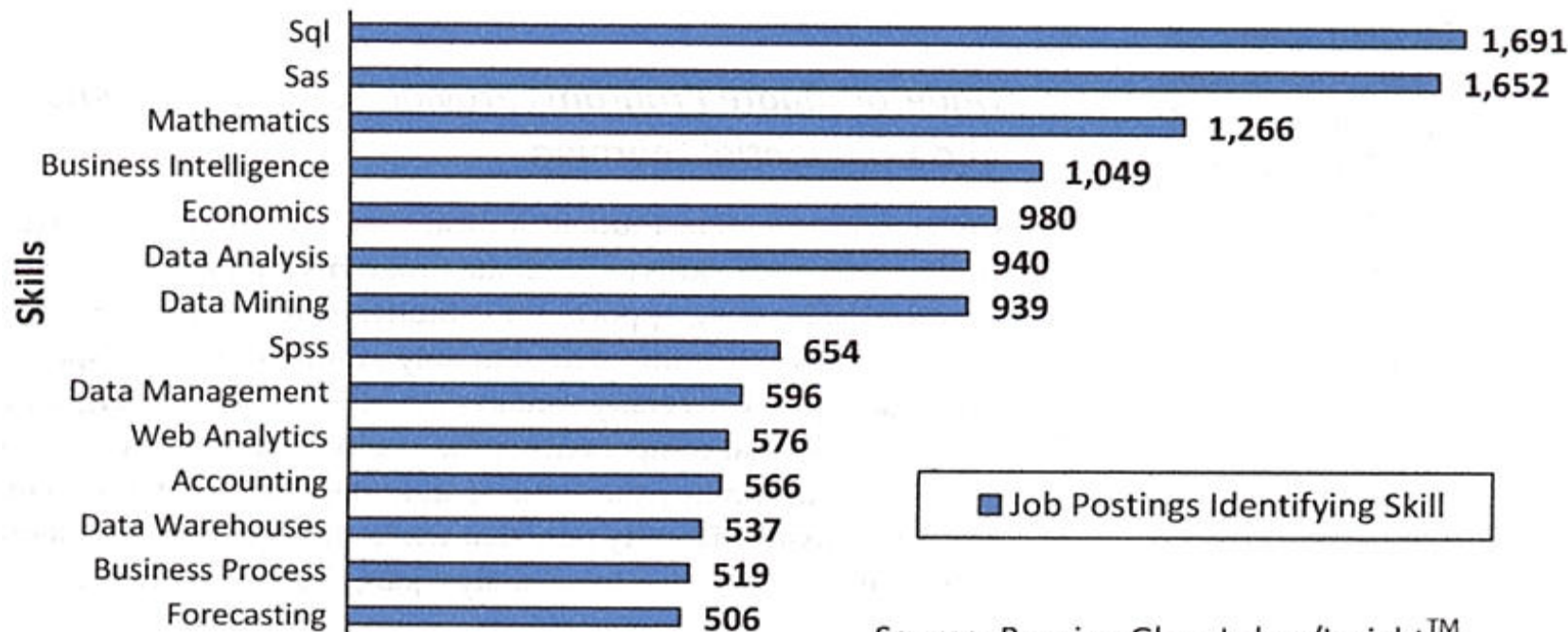
# Top Skills Required for Data Analysts and Business Analysts as Identified in Job Postings January 1 to March 31, 2012



Source: Burning Glass Labor/Insight™

## Top Skills Required for Titles Containing "Data Science," "Data Mining," and "Analytics"

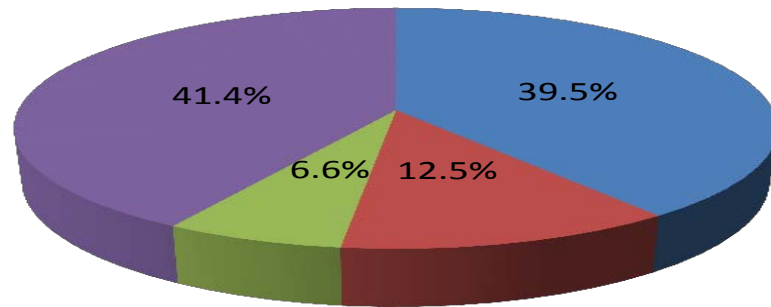
January 1 to March 31, 2012



Source: Burning Glass Labor/Insight™

# Recent Survey Results

**BI/BA course portfolio change since 2010**



- Overall, our current BI/BA classes are about the same number and content that we offered in fall 2010
- Overall, our current BI/BA classes are about the same number that we offered in fall 2010 - but with DIFFERENT CONTENT
- Overall, our current BI/BA classes are FEWER than we offered in fall 2010
- Overall, our current BI/BA classes are MORE than we offered in fall 2010

Wixom, B. H., T. Ariyachandra, and J. Mooney (2013). ***State of Business Intelligence in Academia***, BI Congress 3.

# GLOBAL ACADEMIC PROGRAM

Support Opportunities

**SAS® OnDemand  
for Academics**

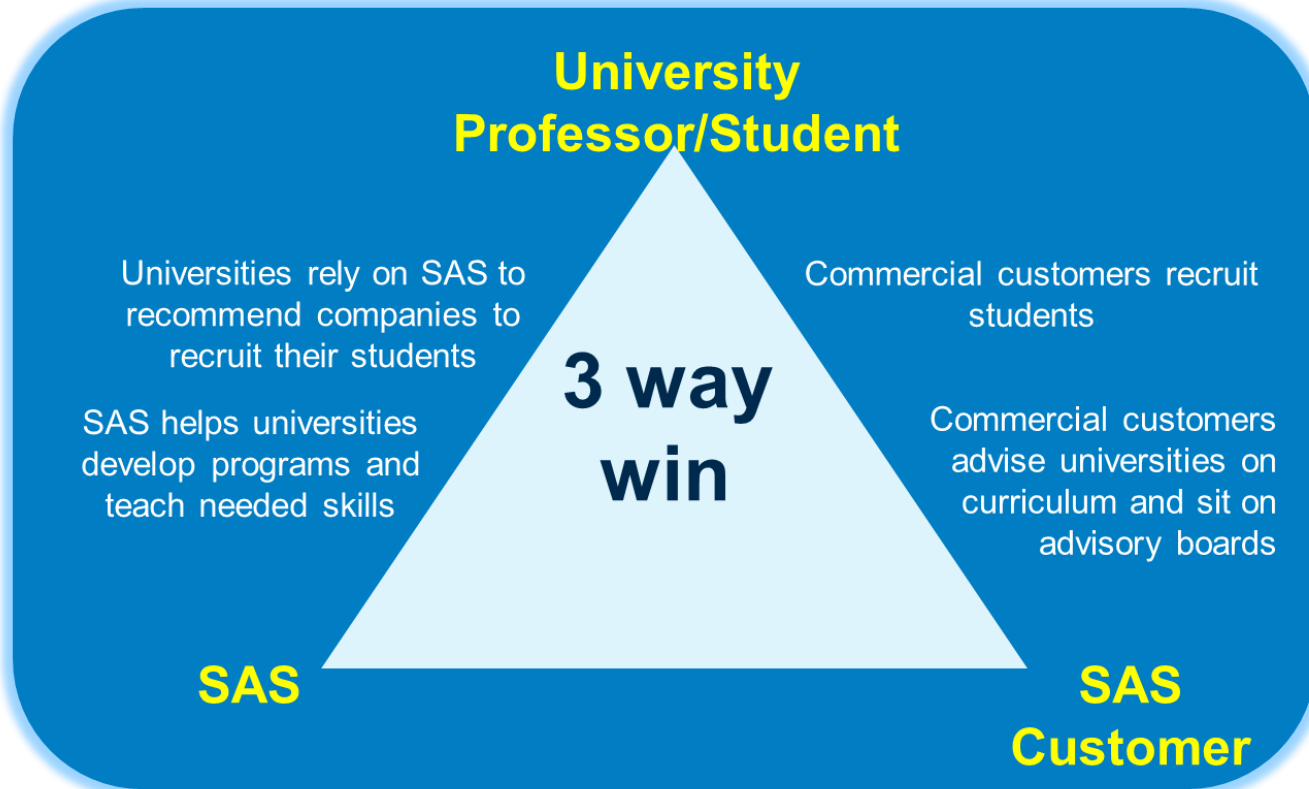
**SOFTWARE AVAILABILITY**

- Provides access to a SAS-hosted server over the web
- Enables professors and students to access SAS for teaching and learning at no cost
- Current client offering include:
  - SAS Enterprise Guide
  - SAS Enterprise Miner with Text Miner & Credit Scoring
  - SAS Forecast Server
  - SAS Web Editor



## UNIVERSITIES, CUSTOMERS AND SAS

### Overall Approach





## Global Academic Program

### DEVELOPING ANALYTICAL TALENT

Developing the next generation of analytical talent for business by supporting teaching, learning, and research

#### **Global**

Academic Managers in many countries

#### **Target Audience**

University Professors/Lecturers

University - Students

University - Administration

High School - Teachers and Students

Commercial Customers

## AREAS OF SUPPORT

### Global Academic Program

## INITIATIVES

- Teaching Materials
- Joint Certificate Programs
- OnDemand Software
- Curriculum Consulting
- Summer workshops
- Free e-learning
- On-site workshops
- Develop new MS programs
- Guest speakers
- Partnerships (TUN)



# Educate the Next Generation

- Learn to work with new sources and new types of data
  - **Transactional**
  - **Customer**
  - **Textual**
- Become more involved in making the data analysis-ready
- Exploit new analytic infrastructure for large data
  - **Distributed**
  - **In-database**
- Collaborate with interdisciplinary teams that combine
  - **Industry experience**
  - **Specialized software skills for data management, analytical computing, reporting**
  - **Expertise in statistics, data mining, forecasting, optimization, text analytics**

Global Academic  
Program

PROGRAMS WITH SAS FOCUS

**MBA programs/ Masters in (Business) Analytics,  
Marketing Analytics or Business Intelligence**

<b>University of Central Florida</b>	University of Tennessee Knoxville
University of Alabama	Stevens Institute of Technology
Louisiana State University	Northwestern University
Lehigh University	Texas A&M University
DePaul University	University of Cincinnati
Indiana University	North Carolina State University
University of South Carolina	Kennesaw State University
Athabasca University (Canada)	North-West University (South Africa)

## AREAS OF SUPPORT

### Global Academic Program

#### JOINT CERTIFICATES

- Typically 4-6 courses (12-18 semester hours)
- Over 13 topic areas including data mining, analytics, BI, statistical programming, etc.
- Experience with real data required
- Over 45 programs with five international ones
- 6-8 new ones currently in development

*"We have found, time after time, that once our students develop SAS skills, they can get a job almost exclusively based upon their ability to execute SAS."*



**Dr. Jennifer Priestley**  
Assistant Professor of Applied  
Statistics  
Kennesaw State University

## AREAS OF SUPPORT

### Global Academic Program

## PROGRAMS WITH SAS FOCUS (partial list)

### **MBA programs/ Masters in (Business) Analytics, Marketing Analytics or Business Intelligence/Certificates**

University of Arkansas	Purdue University
Oklahoma State University	University of Missouri
George Washington University	University of Maryland
New York University	University of Illinois/Champaign-Urbana
University of Connecticut	University of Arkansas
Carnegie Mellon	Pace University
Bentley University	Bryant University
West Georgia University	University of South Florida
Sunway University (Malaysia)	Anahuac University (Mexico)



## AREAS OF SUPPORT

### Global Academic Program

## NETWORKING & OUTREACH INITIATIVES

- SAS Days with universities & industry partners
- Serving on Advisory Boards
- Connecting students with customers for internship/employment
- Facilitating the sharing of curriculum between universities



## AREAS OF SUPPORT

### Global Academic Program

#### SUPPORT FOR HIGH SCHOOLS

- Train-the-teacher program held on SAS campus
- Access to SAS software, teaching materials, exercises, data sets and assessments at no cost
- Prepares students for post-secondary education, careers, and success in the 21st century.



### User Groups & Conferences

## STUDENT & FACULTY PROGRAMS

SAS supports students & faculty through numerous conference programs, guest lectures & connects them to SAS customers looking for SAS talent through social media & conference events.

Student Opportunities:	Number funded (fully or in part):
SAS Global Forum	11 SAS Student Ambassadors 19 Student Scholars 8 Faculty Scholars
Analytics Conference	6 Student Poster Winners 39 Student Poster Presenters 3 Students/3 Faculty –Analytics Shootout
6 Regional SAS Users Groups	91 Student Scholars 5 Faculty Scholars

418 applicants from 98 universities were  
considered for these programs

**Professional  
Development**

**BUILDING EXPERTISE**

- **Advanced Business Analytics**
  - San Diego June 10-14 / Cary July 22-26
- **Applied Mixed Models for Professors**
  - San Diego June 10-12 / Cary July 8-10
- **Data Mining for Professors**
  - Cary July 9-11
- **The GLIMMIX Procedure for Professors**
  - San Diego June 13-14 / Cary July 11-12
- **Data Manipulation and Analytics Using SAS Enterprise Guide**
  - Cary July 8
- **Programming for High School Teachers**
  - Cary, June 24-28
- **AP Stat for High School Teachers**
  - Cary, August 5-9



THE  
POWER  
TO KNOW<sup>®</sup>