WHEN DATA TALKS
OPPORTUNITY KNOCKS

PRESENTED BY CAL POLY, GOOGLE, AND ORACLE

MS BUSINESS ANALYTICS*

*Pending final approval by CSU Chancellor
AGENDA

MEET OUR SPEAKERS

MS BUSINESS ANALYTICS OVERVIEW

CONVERSATION WITH INDUSTRY

NEXT STEPS
MEET OUR SPEAKERS

Scott Dawson, PhD
Dean, OCOB

Sanjiv Jaggia, PhD
Assoc. Dean, OCOB

Joshua Knox, Google Engineering Program Manager

Rich Clayton, Oracle VP Business Analytics
MS BUSINESS ANALYTICS
OVERVIEW
INDUSTRY NEEDS

• **Develop** insight and context for business issues

• **Deploy** data for effective business solutions

• **Hire** well-rounded professionals with skills in data management, statistical modelling, computing, and communication
INDUSTRY DEMAND

59% of organizations lacked the tools required to manage data in 2015.

The amount companies will spend on big data in 2015 is $16.9 billion.

By 2018 there will be a shortage of 1.5 million managers & analysts.

Every 1 big data-related role will create 3 jobs for people outside of IT.

CLEAR RETURNS FOR INDUSTRY

$1 SPENT ON ANALYTICS

$10.66 RETURN

Source:
Executives who feel they understand the impact data will have on their organizations.

Source: Center for Business Analytics at Loras College
ANALYTICS FOR EVERY INDUSTRY

COMMUNICATIONS
- Location-based advertising

CONSUMER PACKAGED GOODS
- Sentiment analysis of what’s hot, problems

FINANCIAL SERVICES
- Risk & portfolio analysis

EDUCATION & RESEARCH
- Experiment sensor analysis

LIFE SCIENCES
- Clinical trials
- Genomics

MEDIA/ENTERTAINMENT
- Viewers / advertising effectiveness

ON-LINE SERVICES / SOCIAL MEDIA
- People & career matching
- Web-site optimization

HEALTH CARE
- Patient sensors, monitoring, EHRs
- Quality of care

RETAIL
- Consumer sentiment
- Optimized sales & marketing

TRAVEL & TRANSPORTATION
- Sensor analysis for optimal traffic flows
- Customer sentiment

UTILITIES
- Smart Meter analysis

LAW ENFORCEMENT & DEFENSE
- Threat analysis - social media monitoring, photo analysis

AUTOMOTIVE
- Auto sensors reporting location, problems

HIGH TECHNOLOGY / INDUSTRIAL MFG.
- Mfg quality
- Warranty analysis

OIL & GAS
- Reserve Capacity estimation, Drilling exploration sensor analysis

FINANCIAL SERVICES
- Risk & portfolio analysis

OIL & GAS
- Reserve Capacity estimation, Drilling exploration sensor analysis
MS BUSINESS ANALYTICS

GOALS

• **Produce** industry leaders in a rapidly evolving field

• **Address** growing unmet industry needs

• **Collaborate** with business partners on developing a pool of analytics professionals
CLEAR RETURNS FOR GRADUATES

• Data analysis is one of the most demanded skills by U.S. employers, according to Burning Glass data.

• According to the Bureau of Labor Statistics, the data analyst’s job category is expected to grow by 45 percent from 2008 to 2018, making it one of the fastest-growing career fields.

• Annual salary for top business analytics executives is $171,816. (Salary.com)
### The MSBA Program

<table>
<thead>
<tr>
<th>Holistic &amp; Interdisciplinary</th>
<th>Industry Leadership</th>
<th>Learn by Doing</th>
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<tbody>
<tr>
<td>All aspects of business analytics</td>
<td>Train managers, not just number crunchers</td>
<td>Work in project-based teams</td>
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<tr>
<td>Emphasis on industry projects, statistical modeling and communication</td>
<td>Critical link between senior management, data scientists and clients</td>
<td>Hands-on experience with analyzing real data sets from business partners</td>
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ADVISORY BOARD

OUR BUSINESS ANALYTICS ADVISORY BOARD INCLUDES LEADERS FROM:

- Google
- Oracle
- Brocade
- Informatica
- Nest
- First Republic Bank
- Experian
- Symantec
- Walmart
- VSP Global
- Violin Memory
- Cisco
# Curriculum

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>GSB 510</td>
<td>Data Visualization and Communication in Business</td>
<td>4</td>
</tr>
<tr>
<td>GSE 518</td>
<td>Essential Statistics for Econometrics</td>
<td>4</td>
</tr>
<tr>
<td>GSE 520</td>
<td>Advanced Econometrics I</td>
<td>4</td>
</tr>
<tr>
<td>GSE 524</td>
<td>Computational Methods in Economics</td>
<td>4</td>
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<tr>
<td>GSB 520</td>
<td>Data Management for Business Analytics</td>
<td>4</td>
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<tr>
<td>GSB 530</td>
<td>Data Analytics and Mining for Business</td>
<td>4</td>
</tr>
<tr>
<td>GSB 503</td>
<td>Collaborative Industry Projects</td>
<td>8</td>
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</table>
## Electives

<table>
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<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>GSB 510</td>
<td>Advanced Econometrics II <em>(prereq: GSE 520)</em></td>
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<tr>
<td>GSE 518</td>
<td>Strategic Marketing Analytics <em>(prereq: GSE 518)</em></td>
<td>4</td>
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<tr>
<td>GSE 520</td>
<td>Marketing Research <em>(prereq: GSE 518)</em></td>
<td>4</td>
</tr>
<tr>
<td>GSE 524</td>
<td>Evidence-Based Decision Analysis <em>(prereq: GSE 520)</em></td>
<td>4</td>
</tr>
<tr>
<td>GSB 520</td>
<td>Bayesian Econometrics <em>(prereq: GSE 520)</em></td>
<td>4</td>
</tr>
<tr>
<td>GSB 530</td>
<td>Individual Research <em>(Approval from Associate Dean)</em></td>
<td>1-4</td>
</tr>
<tr>
<td>GSB 503</td>
<td>Selected Advanced Topics <em>(Approval from Associate Dean)</em></td>
<td>1-4</td>
</tr>
</tbody>
</table>
SOFTWARE SKILLS

• Database: MS SQL Server, Oracle XE 11g, MS Access
• Programming Language: SQL, R
• Statistical Analysis: STATA, SAS, and R
• Data Visualization: Tableau, R, and Excel
• Data/Text Mining: SAS Enterprise Miner, SAS Text Miner, and XLMiner
MEET YOUR FACULTY

Computation & Visualization

Aric Shafran, PhD
Samuel Frame, PhD
MEET YOUR FACULTY

Data Management & Mining

Barry Floyd, PhD

Leida Chen, PhD
MEET YOUR FACULTY

Statistical Modeling

Carlos Flores, PhD

Jon James, PhD

Garland Durham, PhD
MEET YOUR FACULTY

Marketing Research & Analytics

Jeff Hess, PhD

Brennan Davis, PhD
MEET YOUR FACULTY

Decision Analysis

Eduardo Zambrano, PhD

Garland Durham, PhD
MEET YOUR FACULTY

Collaborative Industry Projects

Sanjiv Jaggia, PhD

Jean Francois Coget, PhD
CONVERSATION
WITH INDUSTRY
INTRODUCTIONS

JOSHUA KNOX
GOOGLE
Engineering Program Manager

RICH CLAYTON
ORACLE
VP of Business Analytics
What unique business challenges can a MS in Business Analytics help solve?

JOSHUA KNOX
GOOGLE
Engineering Program Manager

RICH CLAYTON
ORACLE
VP of Business Analytics
What do companies like Google and Oracle look for in a strong business analytics applicant?

JOSHUA KNOX
GOOGLE
Engineering Program Manager

RICH CLAYTON
ORACLE
VP of Business Analytics
What types of career growth can an analytics leader expect?

JOSHUA KNOX  
GOOGLE  
Engineering Program Manager

RICH CLAYTON  
ORACLE  
VP of Business Analytics
How does the Cal Poly MS in Business Analytics program stand out from other programs?

JOSHUA KNOX  
GOOGLE  
Engineering Program Manager

RICH CLAYTON  
ORACLE  
VP of Business Analytics
PREREQUISITES

• Bachelor’s Degree
• Competitive GMAT or GRE Scores
• Statement of Purpose
• 2 Letters of Recommendation
• 2 College-Level Courses in Statistics
• 1 College-Level Course in Calculus
• 1 College-Level Course in Linear Algebra
• Test of English as a Foreign Language (TOEFL) or IELTS (International English Language Testing System)
GET READY!

• Have GMAT or GRE scores ready
• Complete Prerequisites
• Final Chancellor Approval expected soon
• Check website for updates
• Expect an email when admissions open
THANK YOU

For more information:
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805.756.2637
cobgmp@calpoly.edu