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# The Keys to Impactful and Sustainable Analytics

2021 Berkeley Program

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# The Keys to Impactful and Sustainable Analytics

This Berkeley Extension certificate program was developed at Berkeley to promote business analytics for a diverse world, creating the foundations for relevant, ethical, and humane data.

We are committed to supporting participants with little to no access to high-quality training by offering them a seat for every paying participant or even more with donations.

This 15-hour course (+10 hours of homework) covers the complete skill set required to understand and perform data analytics. It covers the roles and application of technology throughout the analytics supply chain and how data should be handled in each step, from data collection to preparation, organization, analysis, and reporting. It teaches how management and mindsets must evolve to make the best use of analytics. Finally, it presents how lean processes can ensure repeatability, scalability, and sustainability of newly set reporting procedures.

## Partners and Sponsors

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## Lead Instructor's Bio

Gauthier is the Executive Director of the Fisher Center for Business Analytics at the University of California Berkeley, Co-president and Co-founder of AIAI, the Alliance for Inclusive AI, and the founding president of Data Wise Academy, a firm specializing in training and support for transformation in a digital world, in Menlo Park, CA.

He built his expertise from 15 years spent in analytics, controlling and treasury management, 10 years in high technology in companies such as Oracle, Google, and several startups, and continuous experience in high technology education (Berkeley, Stanford, Insead, Association of Finance Professionals). Today, Gauthier shares his passion for technical, process, human and data analytics approaches contributing to better business performance.

He divides his time between Europe, Latin America, and Silicon Valley, where he resides. Outside of his courses, conferences, and research, Gauthier is passionate about the waves of the pacific and the deep sky, a discipline which, like data, is a quest for knowledge.

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# Course Syllabus

The Keys to Impactful and Sustainable Analytics

## Key Topics

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### Why so much Ado about Data?

- Data Is More strategic than you think
- The Concept of Digital Darwinism
- How Do You Start Your Transformation?
- Is Raw Data Like Crude Oil?
- How to Become Data-Efficient

1. Start with the Right Question
2. Know Your Technology
3. Cardinal Rules for Data
4. The Real Big Data Value
5. Leadership and Change
6. Drive Process Efficiency
7. Bring on the 7th Element

# 1. Start with the Right Question

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How to define a Business Challenge or a Business Question

# 2. Know your Technology

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- Why Technology?
- The Two Families of Systems
- The Transactional Systems
- The Decision Systems

*Focus on the Decisional Systems*

- The Middle are
- The Database
- The Analytics Solutions
- The Reporting Solutions
- Performance Management and Analytics Applications
- Decision vs. Transaction – A Blurrier line?
- Implementation and Management of Decisional Solutions

# 3. “Fluidify” Your Data

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- What is Data?
- The Value of Data
- The Flat file:  
The Swiss Knife of Data
- Database Types (Txt, SQL - Relational DB, Olap - “Multidi mensional” DB, Columnar Database, NoSQL)
- What is ACID?

## ◆ The 3 Aspects Of Data

- Structure
- Role
- Format
- The Common Structure of Data Storage
- The Table

## ◆ The Table Structure and the Data Model

- Types of Data Relationships
- Options for Data Joins

## ◆ The 4 Roles Of Data

- The Measures
- The Attributes
- The Calculations
- The Keys

## ◆ Stretch The Roles Of Data

- Profile Your Data
- Manage Your Keys
- Manage Your Attributes
- Master Your Master Data
- Optimize Your Calculations
- Master Your Data Quality Framework

## 4. Get The Real Big Data Value

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### ◆ Big Data Characteristics

- Volume
- Velocity
- Variety
- Building a Holistic View is the Holy Grail

### ◆ Classic Ai/MI Approach

- Multivariable Correlations to Detect Causalities
- Classification to predict Outcomes
- Clustering to Group in Smarter Ways (Third Parties, Transactions, Products, Markets)
- Advanced Visualization
- Keys to Holistic Data

## 5. Leadership and Change

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- Why 70-80 % of Data Projects Fail?
- Team Dynamics
- Management and Leadership Evolutions
- The Change Curve
- The Sustainability Dilemma
- The 4 (Secret) Super Powers

## 6. Process Efficiency

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- Streamline your “Creepy” Processes
- The Hawthorne Effect: Measurement Drives Behavior
- Excellence Is an Art Won by Training
- The Real Value of Manual Spread sheet-based Processes
- Reporting Checklists
- Lean Processes and Swarm Intelligence

## 7. The 7th Element

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- How to Get Started Today
- Why Be Resilient
- What Is at Stake for Your Career