

# FLORIDA ATLANTIC UNIVERSITY™

## Graduate Programs—NEW COURSE PROPOSAL<sup>1</sup>

UGPC APPROVAL \_\_\_\_\_  
 UFS APPROVAL \_\_\_\_\_  
 SCNS SUBMITTAL \_\_\_\_\_  
 CONFIRMED \_\_\_\_\_  
 BANNER POSTED \_\_\_\_\_  
 CATALOG \_\_\_\_\_

DEPARTMENT: ITOM

COLLEGE: BUSINESS

**RECOMMENDED COURSE IDENTIFICATION:**

PREFIX \_\_\_ ISM \_\_\_\_\_ COURSE NUMBER \_\_\_ 6119 \_\_\_\_\_ LAB CODE (L or C) \_\_\_\_\_

(TO OBTAIN A COURSE NUMBER, CONTACT [MJENNING@FAU.EDU](mailto:MJENNING@FAU.EDU))

COMPLETE COURSE TITLE: INTRODUCTION TO BUSINESS INTELLIGENCE

**EFFECTIVE DATE**

(first term course will be offered)

\_\_\_ FALL 2016 \_\_\_\_\_

CREDITS<sup>2</sup>: 3

TEXTBOOK INFORMATION: BUSINESS INTELLIGENCE: A MANAGERIAL APPROACH, 3<sup>RD</sup> EDITION BY SHARDA, DELEN, AND TURBAN, PRENTICE HALL, 2011, ISBN: 9780133051056; PROBLEM-SOLVING CASES IN MICROSOFT ACCESS AND EXCEL BY MONK, BRADY & COOK, 11<sup>TH</sup> ANNUAL EDITION, COURSE TECHNOLOGY, 2014, ISBN: 1133628370

GRADING (SELECT ONLY ONE GRADING OPTION): REGULAR \_\_\_ V \_\_\_ SATISFACTORY/UNSATISFACTORY \_\_\_\_\_

**COURSE DESCRIPTION, NO MORE THAN THREE LINES:**

THIS COURSE PROVIDES AN UNDERSTANDING OF THE BUSINESS INTELLIGENCE PROCESSES AND TECHNIQUES USED IN TRANSFORMING DATA TO KNOWLEDGE AND VALUE IN ORGANIZATIONS. STUDENTS ALSO DEVELOP SKILLS TO ANALYZE DATA USING GENERALLY AVAILABLE TOOLS (E.G., EXCEL).

PREREQUISITES \*: ADMISSION TO AN FAU GRADUATE PROGRAM AND ISM 3011 OR EQUIVALENT

COREQUISITES\*: NONE

REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL)\*: NONE

\* PREREQUISITES, COREQUISITES AND REGISTRATION CONTROLS WILL BE ENFORCED FOR ALL COURSE SECTIONS.

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE: TERMINAL DEGREE (PH.D.) WITH INFORMATION SYSTEMS COURSE WORK

Faculty contact, email and complete phone number:

Dr. Jahyun Goo  
 Email: [jgoo@fau.edu](mailto:jgoo@fau.edu)  
 Phone: 561.297.2352

Please consult and list departments that might be affected by the new course and attach comments.<sup>3</sup> NO DEPARTMENTS ARE AFFECTED.

**Approved by:**

Department Chair: *David for Dr. Pines*  
 College Curriculum Chair: *Wm R. McDonald*  
 College Dean: \_\_\_\_\_  
 UGPC Chair: \_\_\_\_\_  
 Graduate College Dean: \_\_\_\_\_  
 UFS President: \_\_\_\_\_  
 Provost: \_\_\_\_\_

**Date:**

*10/1/2015*  
*10-1-2015*

1. Syllabus must be attached; see guidelines for requirements: [www.fau.edu/provost/files/course\\_syllabus.2011.pdf](http://www.fau.edu/provost/files/course_syllabus.2011.pdf)

2. Review Provost Memorandum: **Definition of a Credit Hour** [www.fau.edu/provost/files/Definition\\_Credit\\_Hour\\_Memo\\_2012.pdf](http://www.fau.edu/provost/files/Definition_Credit_Hour_Memo_2012.pdf)

3. Consent from affected departments (attach if necessary)

Email this form and syllabus to [UGPC@fau.edu](mailto:UGPC@fau.edu) one week before the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website prior to the meeting.



Florida Atlantic University  
COLLEGE OF BUSINESS

**ISM 6119 - Section 00x**  
**Introduction to Business Intelligence**  
(Fall 2015, CRN: xxxxx, 3 credits)  
Location & Time: TBD

Professor Information

Instructor: Dr. Jahyun Goo  
Office: FL 218, Boca Campus  
Email: [jgoo@fau.edu](mailto:jgoo@fau.edu)  
Phone: 561.297.2352

Office Hours

TBD

Required Text and Materials

**Lecture:**

- Business Intelligence: A Managerial Approach, 3<sup>rd</sup> edition by Sharda, Delen, and Turban, Prentice Hall, 2011, ISBN: 9780133051056

**Lab:**

- Problem-Solving Cases in Microsoft Access and Excel by Monk, Brady & Cook, 11<sup>th</sup> Annual Edition, Course Technology, 2014, ISBN: 1133628370

Course Description

This course provides an understanding of the business intelligence processes and techniques used in transforming data to knowledge and value in organizations. Students also develop skills to analyze data using generally available tools (e.g., EXCEL).

Course Prerequisites Credit Hours, and Class Time Commitments

This course is 3-credit and serves as a core/required course for the Business Analytics concentration. According to Florida State Statute 6A-10.033, students must spend a minimum 37.5 of **in class** time during a 3-credit course. Additionally, students enrolled in a 3-credit course are expected to spend a minimum of 75 hours of **out-of-class-time** specifically working on course-related activities (i.e., reading assigned pieces, completing homework, preparing for exams and other assessments, reviewing class notes, etc.) and fulfilling any other class activities or duties as required.

This course has a prerequisite of ISM 3011 (Management Information Systems) along with a working knowledge of basic mathematics (high school algebra), and the ability to use simple



computing tools (e.g., passing familiarity with EXCEL and ACCESS). Students should have access to EXCEL spreadsheet and ACCESS database software (comes with Microsoft Office). The students are assumed to be familiar at an intuitive level with general business practices of collecting, storing, and using data. However, these subjects will be reviewed in detail at the beginning of the course as a refresher for students who may have forgotten some of the details.

### Course Learning Objectives

Many organizations have a wealth of data residing in their databases, and generate additional valuable data that is often not captured. Business intelligence (BI) is the process of collecting and turning this resource into business value. The class format consists of discussion of a large number of articles/cases, presentations by business professionals, class lectures and discussions on data modeling and design, and hands-on work with Excel. The Learning Outcomes for this course are the following:

- Fundamental concepts about business intelligence such as use data analysis techniques to make better business decisions, data preparation and simple tools for solving data mining problems.
- Communications skills by writing an executive memorandum that presents the business problem and analytical technique used, the summary of the results in terms of actionable information, and the recommendation for decision making.
- Critical thinking that analyzes the results, estimate the errors, costs, and accuracy of the model, evaluate the technique effectiveness
- Critical thinking to answer a business question or solve a business problem by: choosing the most appropriate data and analytical techniques, and by offering the recommendation for decision making

### Grading Scale

Grades are rounded up to the nearest tenth of a point.

Grade Percentage Breakdown	
Mid-term Exam I, II	20%
Final Exam	20%
Lab Exam	20%
Lab Assignments	10%
Group Research Project	30%
<b>Total</b>	<b>100%</b>

Final Grade Assignment		
A	100	– 93.00
A-	92.99	– 89.00
B+	88.99	– 87.00
B	86.99	– 83.00
B-	82.99	– 79.00
C+	78.99	– 77.00
C	76.99	– 73.00
C-	72.99	– 69.00



D+	68.99	– 67.00
D	66.99	– 63.00
D-	62.99	– 59.00
F	58.99	– 0.00

Because everyone will be graded in exactly the same way, in fairness of other students, the instructor cannot and will not arbitrarily move the grading scale to accommodate individuals' specific needs or desires. All requests for an unearned extra or "bonus" point at the end of the semester in order to move you into the next grade category will be rejected.

### Course Evaluation Method

#### CLASS PARTICIPATION

During the lectures, frequent discussions of concepts and applications are expected in class. Regular attendance and active participation are essential part of learning in this course, and you may be called upon to share your ideas, experience, or educated opinions. Therefore, it is advised that you come to each class having read (or at least scanned) the assigned materials. To assist your preparation, lecture note for each class is posted on Blackboard.

Although regular roll calls will not be administered, attendance will be taken randomly and unannounced in class. Please note that those come to class more than 30 minutes late will not be allowed to sign in. The attendance record can affect your grade as follows:

- Those who are recorded absent two (2) times will get **at most** a B+;
- Those who are recorded absent three (3) times will get **at most** a C+;
- Those who are recorded absent four (4) times or more will get **at most** a C-.

The class takes place in the computer lab as the course involves case studies with the Excel and Access used. Please note that **lecture time is not meant to be used to check your email, watch YouTube videos, update Facebook, or work on your assignments for this or any other class.**

#### LECTURE SESSION

#### LECTURE EXAMS

Three (3) lecture exams will be administered throughout the semester (see Course Schedule). Exams will be given in a multiple-choice format. They are comprehensive, covering all the assigned reading and lecture notes, but non-accumulative. Note that material presented in class will supplement the assigned reading. Therefore, class attendance and good note taking are essential tactics for success.



There are no make-up exams for this course. However, if you are unable to take an exam due to an emergency, you must inform the instructor of that fact ***on or before*** the day of the exam and arrange for a make-up to be administered before the graded exam is returned to the class. Any student requiring a make-up has to document his/her excuse (e.g., a letter from a physician written on the physician's letterhead). Please note that ***in no event will a make-up test be given after the graded exam is reported to the class.***

#### LAB SESSIONS

##### LAB CLASS

Lab classes are designed to understand the conducts of business analysis using Excel and Access. Always bring the appropriate text and (if applicable to you) file transfer means, such as a thumb drive, to lab. You are expected to finish any cases (except tutorials) not finished in class on your own, so that you are prepared for the next lab's lesson. Please note that **lab time is not meant to be used to check your email, watch YouTube videos, update Facebook, or work on your assignments for this or any other class.**

##### LAB EXAMS

There is one (1) exam administered in the lab (see Course Schedule). It is the case analysis to be finished during the lab exam period. If you are unable to take an exam due to an emergency, you must inform the instructor of that fact ***before*** the day of the exam and arrange for a make-up, preferably to be administered before the next class; ***in no event will a make-up test be given after the lecture final exam is administered.*** Any student requiring a make-up has to document his/her excuse (e.g., a letter from a physician written on the physician's letterhead).

##### GROUP RESEARCH PROJECT

There will be a semester research project given during the semester. This is basically a literature review project, which would provide a "curated" overview of the literature in the field—who has done what, how do papers relate to one another, and what are the most important present and (possibly) future directions of work in such a field. Each group is expected to deliver a paper that you have to work on as a team. Please refer to the project addendum for details regarding the topics of the project and due dates.

Group evaluation will be administered in order to encourage all group members to equally chip in the group activities. From the group grades earned, individual grades will be adjusted to reflect the amount of contribution by each member in the group projects (See *Group Evaluations Grade Adjustment Policy*). This policy has been put in place to insure that group members receive fair compensation for their efforts.



### LAB ASSIGNMENTS

Individuals will apply what they learned during the lecture class to the cases given along with data throughout the lab sessions. Please download the data files you will be working with the cases from the blackboard under Course Documents>Lab: Cases.

Although learning expected to occur individually, working and learning together is allowed and encouraged in order to effectively tackle the lab cases. Thus, they are all group projects; **Group submission is required**. Students are asked to submit a **summarized report of the analysis as a group** using a memorandum template available in word document, along with an Excel file created during the case analysis. All deliverables must be submitted via email as attachment. Please refer to "Submission Guidelines" below for detail.

No assignments will be graded because of one's failure to follow instructions, including, but not limited to, not having everything required or submitting the wrong file. Also, since you will have one week to work on each case, **late assignment will not be accepted—no exception!**

### General Submission Guidelines

1. **Due Date.** All assignments are due before class on the due date indicated in the course outlines.
2. **Email Submission.** All assignments are to be submitted to the instructor via email. Since every assignment the instructor receives will have an acknowledgement sent, you will want to be sure that an acknowledgement from the instructor for each assignment is arrived, and keep it till the end of the term as a receipt. If you did not get the acknowledgment, it should be assumed that the instructor did not get the assignment, and thus try to resubmit. All email submissions must be received prior to the stated deadline.
3. **Format of Submission.** The following format must be used when submitting assignments via email. In the "Subject" line of your email must indicate the followings: ISM6xxx YourName NameOfDeliverable (Example: *ISM6xxx John Doe Case 6*). In the "main text" of your email, please list the names of your group members.

**Note: This course may be cross-listed with an undergraduate class. In that case, those who take the graduate-level course will be required to complete assignments consistent with the expectation of graduate-level work.**

### Selected University and College Policies

Code of Academic Integrity Policy Statement



Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

#### Disability Policy Statement

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation due to a disability to properly execute coursework must register with the Office for Students with Disabilities ([OSD](#)) – in Boca Raton, SU 133, (561) 297-3880; in Davie, MOD 1, (954) 236-1222; in Jupiter, SR 117, (561) 799-8585; or, at the Treasure Coast, CO 128, (772) 873-3305 – and follow all OSD procedures.

#### Religious Accommodation Policy Statement

In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices **and beliefs with regard to admissions, registration, class attendance and the scheduling of examinations and work assignments**. For further information, please see [Academic Policies and Regulations](#).

#### Grade Appeal Process

A student may request a review of the final course grade when s/he believes that one of the following conditions applies:

- There was a computational or recording error in the grading.
- Non-academic criteria were applied in the grading process.
- There was a gross violation of the instructor's own grading system.

The procedures for a grade appeal may be found in [Chapter 4 of the University Regulations](#).

#### University Approved Absence Policy Statement

In accordance with rules of the Florida Atlantic University, students have the right to reasonable accommodations to participate in University approved activities, including athletic or scholastics teams, musical and theatrical performances and debate activities. It is the student's responsibility to notify the course instructor at least one week prior to missing any course assignment.

#### College of Business Minimum Grade Policy Statement



The minimum grade for College of Business requirements is a “C”. This includes all courses that are a part of the pre-business foundation, business core, and major program. In addition, courses that are used to satisfy the university’s Writing Across the Curriculum and Gordon Rule math requirements also have a minimum grade requirement of a “C”. Course syllabi give individualized information about grading as it pertains to the individual classes.

#### Incomplete Grade Policy Statement

A student who is passing a course, but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete (“I”). The assignment of the “I” grade is at the discretion of the instructor, but is allowed only if the student is passing the course.

The specific time required to make up an incomplete grade is at the discretion of the instructor. However, the College of Business policy on the resolution of incomplete grades requires that all work required to satisfy an incomplete (“I”) grade must be completed within a period of time not exceeding one calendar year from the assignment of the incomplete grade. After one calendar year, the incomplete grade automatically becomes a failing (“F”) grade.

#### Disruptive Behavior Policy Statement

Disruptive behavior is defined in the FAU Student Code of Conduct as “... *activities which interfere with the educational mission within classroom.*” Students who behave in the classroom such that the educational experiences of other students and/or the instructor’s course objectives are disrupted are subject to disciplinary action. Such behavior impedes students’ ability to learn or an instructor’s ability to teach. Disruptive behavior may include, but is not limited to: non-approved use of electronic devices (including cellular telephones); cursing or shouting at others in such a way as to be disruptive; or, other violations of an instructor’s expectations for classroom conduct.





Course Outline

Sessions	Lecture		Lab	
	Topic	Out of Class Work Textbook	Topic	Out of Class Work Case Assignment
1	Mathbus & Overview			
2	Introduction	Ch. 1	Decision making with Solver (1)	Cases 11
3	Data visualization (1)	Ch. 2	Decision making with Solver (2)	Cases 11
4	Excel Solver, Data functions and II	Ch. 2		
5	<b>MIDTERM EXAM I</b>			
6	Business analytics with OLAP and visualization	Ch. 3	Decision making with Scenario Manager (1)	Cases 11
7	Business performance monitoring and dashboards	Ch. 3	Decision making with Scenario Manager (2)	Cases 11
8	Emerging data technologies and challenges	Ch. 7	Decision making with Scenario Manager (3)	Cases 11
9	<b>MIDTERM EXAM II</b>			
10			Data Visualization - Dashboard with OLAP cubes (1)	Tableau Project
11	Data mining: concept, business applications, and managerial issues	Ch. 4	Data Visualization - Dashboard with OLAP cubes (2)	Tableau Project
12	Text and web mining: concept and business applications	Ch. 5	Data Visualization - Dashboard with OLAP cubes (3)	Tableau Project
13	Big Data and Analytics	Ch. 6	Data-driven Decision (1)	Tableau Project
14	Big Data and Analytics (case presentation)	Ch. 6	Data-driven Decision (2)	Tableau Project
15	<b>LAB EXAM</b>			
16	<b>FINAL EXAM</b>			

Note: The course outline is subject to change, depending on class size and needs.

The instructor reserves the right to make any changes needed.

Students are responsible for being familiar with any readings even if they were absent from the class on the days changes were announced.



**Books**

Title: Decision Support and Business Intelligence Systems  
Authors: Afraim Turban, Jay E. Aronson, Ting-Peng Liang, & Ramesh Sharda  
ISBN: 0-13-198660-0  
Publisher: Prentice Hall

Title: Decision Support Systems in the 21<sup>st</sup> Century, 2<sup>nd</sup> edition  
Author: George M. Marakas  
ISBN: 0-13-092206-4  
Publisher: Prentice Hall

Title: Excel Basics to Blackbelt  
Author: Elliot Bendoly  
ISBN: 978-0-521-88905-6  
Publisher: Cambridge University Press

Title: Modern Data Warehousing, Mining, and Visualization  
Authors: George M. Marakas  
ISBN: 0-13-101459-5  
Publisher: Prentice Hall

Title: Mining the Talk: Unlocking the Business Value in Unstructured Information  
Authors: Scott Spangler and Jeffrey Kreulen  
ISBN: 0-13-233953-6  
Publisher: IBM Press

Title: Data and Text Mining: A Business Applications Approach  
Authors: Thomas W. Miller  
ISBN: 0-13-140085-1  
Publisher: Prentice Hall

Title: Introduction to Data Mining  
Authors: Pang-Ning Tan, Michael Steinbach, and Vipin Kumar  
ISBN: 0-321-32136-7  
Publisher: Addison Wesley

Title: Introduction to Business Data Mining  
Authors: David Olson and Yong Shi  
ISBN: 0-07-295971-1



Florida Atlantic University  
COLLEGE OF BUSINESS

Publisher: McGraw Hill

Title: MIS Cases: Decision Making with Application Software

Authors: Lisa Miller

ISBN: 0-13-238105-2

Publisher: Prentice Hall

Tableau 8: The Official Guide

Authors: George Peck

ISBN: 978-0071816786

Publisher: McGraw Hill

#### Articles

- Anonymous, 2008. "Technology (a Special Report); Business Solutions: Finding the Gems, Protecting the Jewels," in: *Wall Street Journal*. p. 6.
- Agrawal, R., Grandison, T., Johnson, C., and Kiernan, J. 2007. "Enabling the 21st Century Health Care Information Technology Revolution," *Association for Computing Machinery. Communications of the ACM* (50:2), Feb, p 34.
- Angell, I., and Kietzmann, J. 2006. "Rfid and the End of Cash?" *Association for Computing Machinery. Communications of the ACM* (49:12), Dec, p 90.
- Apte, C., Liu, B., Pednault, E.P.D., and Smyth, P. 2002. "Business Applications of Data Mining," *Association for Computing Machinery. Communications of the ACM* (45:8), Aug, p 49.
- Arnott, D., and Pervan, G. 2008. "Eight Key Issues for the Decision Support Systems Discipline," *Decision Support Systems* (44:3), Feb, p 657.
- Berzal, F., Blanco, I., Cubero, J.-C., and Marin, N. 2002. "Component-Based Data Mining Frameworks," *Association for Computing Machinery. Communications of the ACM* (45:12), Dec, p 97.
- Cannataro, M., and Talia, D. 2003. "The Knowledge Grid," *Association for Computing Machinery. Communications of the ACM* (46:1), Jan, p 89.
- Chung, W., Chen, H., and Nunamaker, J.F., Jr. 2005. "A Visual Framework for Knowledge Discovery on the Web: An Empirical Study of Business Intelligence Exploration," *Journal of Management Information Systems* (21:4), Spring, p 57.
- Clark, T.D., Jr., Jones, M.C., and Armstrong, C.P. 2007. "The Dynamic Structure of Management Support Systems: Theory Development, Research Focus, and Direction," *MIS Quarterly* (31:3), Sep, p 579.
- Eick, S.G. 2001. "Visualizing Online Activity," *Association for Computing Machinery. Communications of the ACM* (44:8), Aug, p 45.
- Fan, W., Wallace, L., Rich, S., and Zhang, Z. 2006. "Tapping the Power of Text Mining," *Association for Computing Machinery. Communications of the ACM* (49:9), Sep, p 76.
- Fayyad, U. 2001. "The Digital Physics of Data Mining," *Association for Computing Machinery. Communications of the ACM* (44:3), Mar, p 62.

- Fayyad, U., and Uthurusamy, R. 2002. "Evolving Data Mining into Solutions for Insights," *Association for Computing Machinery. Communications of the ACM* (45:8), Aug, p 28.
- Foshay, N., Mukherjee, A., and Taylor, A. 2007. "Does Data Warehouse End-User Metadata Add Value?" *Association for Computing Machinery. Communications of the ACM* (50:11), Nov, p 70.
- Ganapathy, S., Ranganathan, C., and Sankaranarayanan, B. 2004. "Visualization Strategies and Tools for Enhancing Customer Relationship Management," *Association for Computing Machinery. Communications of the ACM* (47:11), Nov, p 92.
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- Han, J., Altman, R.B., Kumar, V., Mannila, H., and Pregibon, D. 2002. "Emerging Scientific Applications in Data Mining," *Association for Computing Machinery. Communications of the ACM* (45:8), Aug, p 54.
- Hirji, K.K. 2001. "Exploring Data Mining Implementation," *Association for Computing Machinery. Communications of the ACM* (44:7), Jul, p 87.
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- March, S.T., and Hevner, A.R. 2007. "Integrated Decision Support Systems: A Data Warehousing Perspective," *Decision Support Systems* (43:3), Apr, p 1031.
- Nelson, R.R., Todd, P.A., and Wixom, B.H. 2005. "Antecedents of Information and System Quality: An Empirical Examination within the Context of Data Warehousing," *Journal of Management Information Systems* (21:4), Spring, p 199.
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- Sheng, Y.P., Mykytyn, P.P., Jr., and Litecky, C.R. 2005. "Competitor Analysis and Its Defenses in the E-Marketplace," *Association for Computing Machinery. Communications of the ACM* (48:8), Aug, p 107.
- Smyth, P., Pregibon, D., and Faloutsos, C. 2002. "Data-Driven Evolution of Data Mining Algorithms," *Association for Computing Machinery. Communications of the ACM* (45:8), Aug, p 33.

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- Speier, C., and Morris, M.G. 2003. "The Influence of Query Interface Design on Decision-Making Performance1," *MIS Quarterly* (27:3), Sep, p 397.
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- Zdanowicz, J.S. 2004. "Detecting Money Laundering and Terrorist Financing Via Data Mining," *Association for Computing Machinery. Communications of the ACM* (47:5), May, p 53.