

# Learning Analytics

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Schreyer Institute for Teaching Excellence

# Talking Points

- Overview of Learning Analytics
- Specific examples
- Important variables

# *Learning Analytics?*

Suggestions (2,210)

Rate Shows & Movies

Taste Preferences

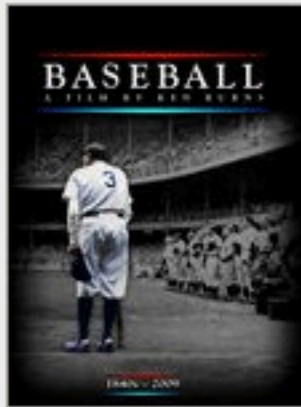
What You've Rated (136)

Suggestions In: All Genres

RATINGS 136

Suggestions to Watch Instantly

See all >



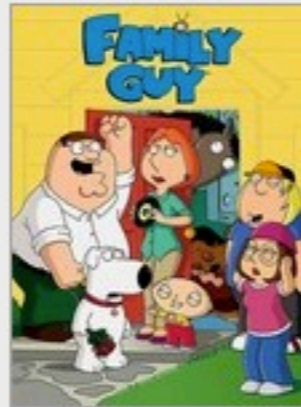
Ken Burns: Baseball

Because you enjoyed:  
Seinfeld

Play



Not Interested



Family Guy

Because you enjoyed:  
Weeds  
Caddyshack  
Chappelle's Show

Play



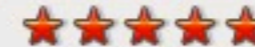
Not Interested



South Park

Because you enjoyed:  
Weeds  
The Office (U.K.)  
Chappelle's Show

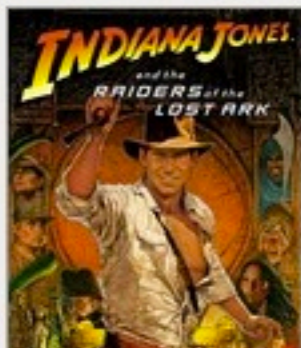
Play



Not Interested

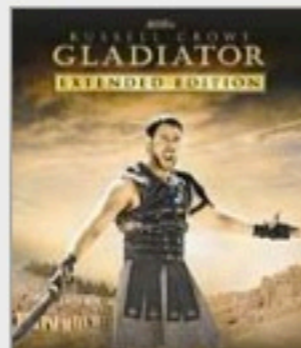
Action & Adventure

See all >



Raiders of the Lost Ark

Because you enjoyed:  
Saving Private Ryan  
LOTR: The Return of the King  
Lord of the Rings: Fellowship of the Ring



Gladiator: Extended Edition

Because you enjoyed:  
Gladiator  
LOTR: The Return of the King  
3:10 to Yuma



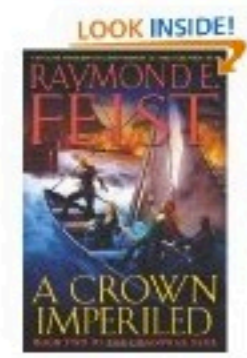
Unforgiven

Because you enjoyed:  
Tombstone  
Reservoir Dogs  
The Shining

Barton, Welcome to Your Amazon.com (If you're not Barton K. Pursel, click here.)

### Today's Recommendations For You

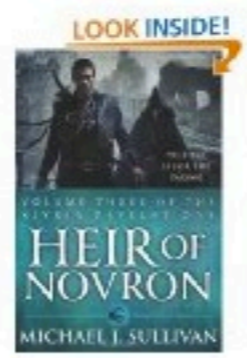
Here's a daily sample of items recommended for you. Click here to [see all recommendations](#).



**A Crown Imperiled: Book Two...**  
(Hardcover) by Raymond E. Feist  
★★★★☆ (18) \$17.78  
[Fix this recommendation](#)



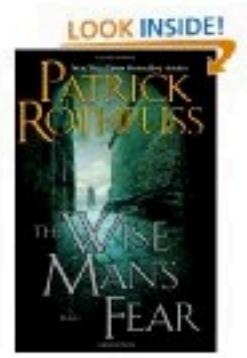
**Assassin's Apprentice (The Farseer...**  
(Mass Market Paperback) by Robin Hobb  
★★★★★ (544) \$7.99  
[Fix this recommendation](#)



**Heir of Novron (Riyria Re...**  
(Paperback) by Michael J. Sullivan  
★★★★★ (38) \$10.19  
[Fix this recommendation](#)



**Mistborn Trilogy Boxed Set**  
(Mass Market Paperback) by Brandon Sanderson  
★★★★★ (167) \$14.61  
[Fix this recommendation](#)



**The Wise Man's Fear (King...**  
(Hardcover) by Patrick Rothfuss  
★★★★☆ (747) \$18.26  
[Fix this recommendation](#)

### Coming Soon for You

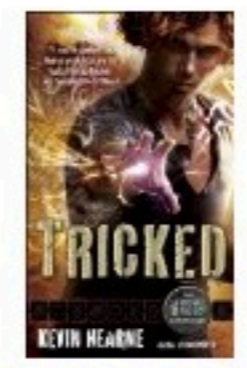
Page 1 of 3



**The Serpent's Shadow (The Kane C...**  
(Hardcover) by Rick Riordan  
★★★★★ (8) \$11.40



**Diablo III: Collector's Edition**  
[Fix this recommendation](#)



**Tricked (The Iron Druid Chronicl...**  
(Mass Market Paperback) by Kevin Hearne  
\$7.99

### Tap into Your Friends



Connect to Facebook to get Am... recommendations for you and

*“Learning Analytics is the use of analytic techniques to help target instructional, curricular, and support resources to support the achievement of specific learning goals.”*

*(Barneveld, Arnold & Campbell, 2012)*

## ELI 2012 Online Spring Focus Session

April 11–12 • Learning Analytics



Learning analytics (LA) is the collection and analysis of data associated with student learning. The analysis of this data, coming from a variety of sources like the LMS, the library, and the student information system, helps us observe and understand learning behaviors in order to enable appropriate interventions. The reports that an LA application generates can be helpful for instructors (regarding student activities and progress), for students (regarding their progress), and for administrators (regarding course and degree completion data). LA applications help instructors monitor student progress, students evaluate their own performance, and administrators track course and degree completion. Although still emergent, learning analytics is a rapidly expanding area of research and a practice worthy of exploration.

# Learning Analytics and Knowledge

LAK12 – Vancouver, British Columbia,  
Canada 29 April – 2 May 2012



acm In-Cooperation  
sig web

Home   Keynotes & Program   Call for Papers   Key Dates   Committees   Sponsors   Registration   Venue & Accommodations

## Keynotes & Program

### LAK12 Program:

The Workshop and Conference program can be downloaded from:

[LAK2012 Program](#)

Please note that late changes to this program may be necessary. If you are planning your travel around the Conference schedule please contact [shane.dawson@ubc.ca](mailto:shane.dawson@ubc.ca) prior to booking to confirm timing

### Sponsors



BILL & MELINDA  
GATES foundation

Desire2Learn

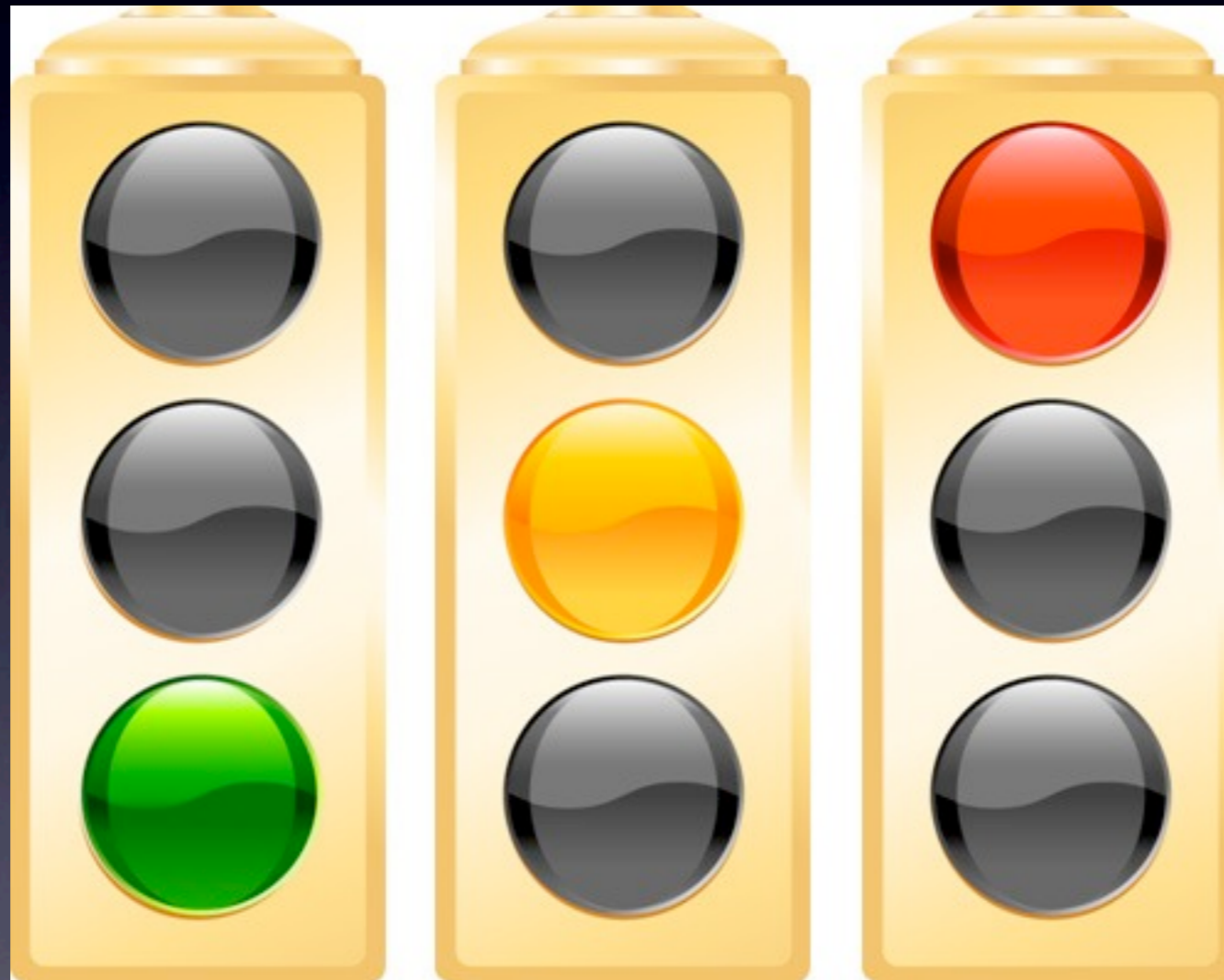
C E I T  
Centre for  
Educational  
Innovation and  
Technology



# Some Examples

- Purdue's *Course Signals*
- U. of Maryland, Baltimore County's *My Course Activity*
- Austin Peay State's *Degree Compass*
- Rio Salado's *PACE*

# Course Signals



Instructor Intervention

# Signals

[Home](#) [About](#) [Help](#) [Logoff](#)

## Summer 2009 - ANTH-34100-001 - XLST

Add Intervention

Blackboard Stoplights

Intervention Emails

### Section Dashboard

Show/Hide Filter

Student	Int 1	Int 2	Int 3	Int 4	Int 5	Int 6	Int 7	Int 8	Int 9
Student A	●	●	●	●	●	●	●	●	●
Student B	●	●	●	●	●	●	●	●	●
Student C	●	●	●	●	●	●	●	●	●
Student D	●	●	●	●	●	●	●	●	●
Student E	●	●	●	●	●	●	●	●	●
Student F	●	●	●	●	●	●	●	●	●
Student G	●	●	●	●	●	●	●	●	●
Student H	●	●	●	●	●	●	●	●	●
Student I	●	●	●	●	●	●	●	●	●
Student J	●	●	●	●	●	●	●	●	●

# PURDUE UNIVERSITY

Purdue University, West Lafayette, IN 47907 USA, (765) 494-4600  
© 2009 Purdue University. An equal access, equal opportunity university.



# Signals

Detailed Report

Effort Tracker

Help Resource

## Mary Major

Fall Semester

Course	<u>Int 1</u>	<u>Int 2</u>	<u>Int 3</u>
BIOL 101			
GS 101			
SPAN 310			
STAT 303			
COM 150			

**PURDUE**  
UNIVERSITY

Purdue University, West Lafayette, IN 47907 USA. (765)

# Evidence

- Courses using Signals yield more “C” or better grades, fewer “D” and “F” grades.
- Early intervention = better chance of student success.
- Help-seeking behavior on the rise.

# My Course Activity

The screenshot shows the Blackboard interface for user John Fritz. The top navigation bar includes links for Alerts, Mail, Blackboard, Calendar, Activity, and a Log Out button. The main content area is titled 'Blackboard »' and contains a sidebar with course names and a main table for 'Course Activity'.

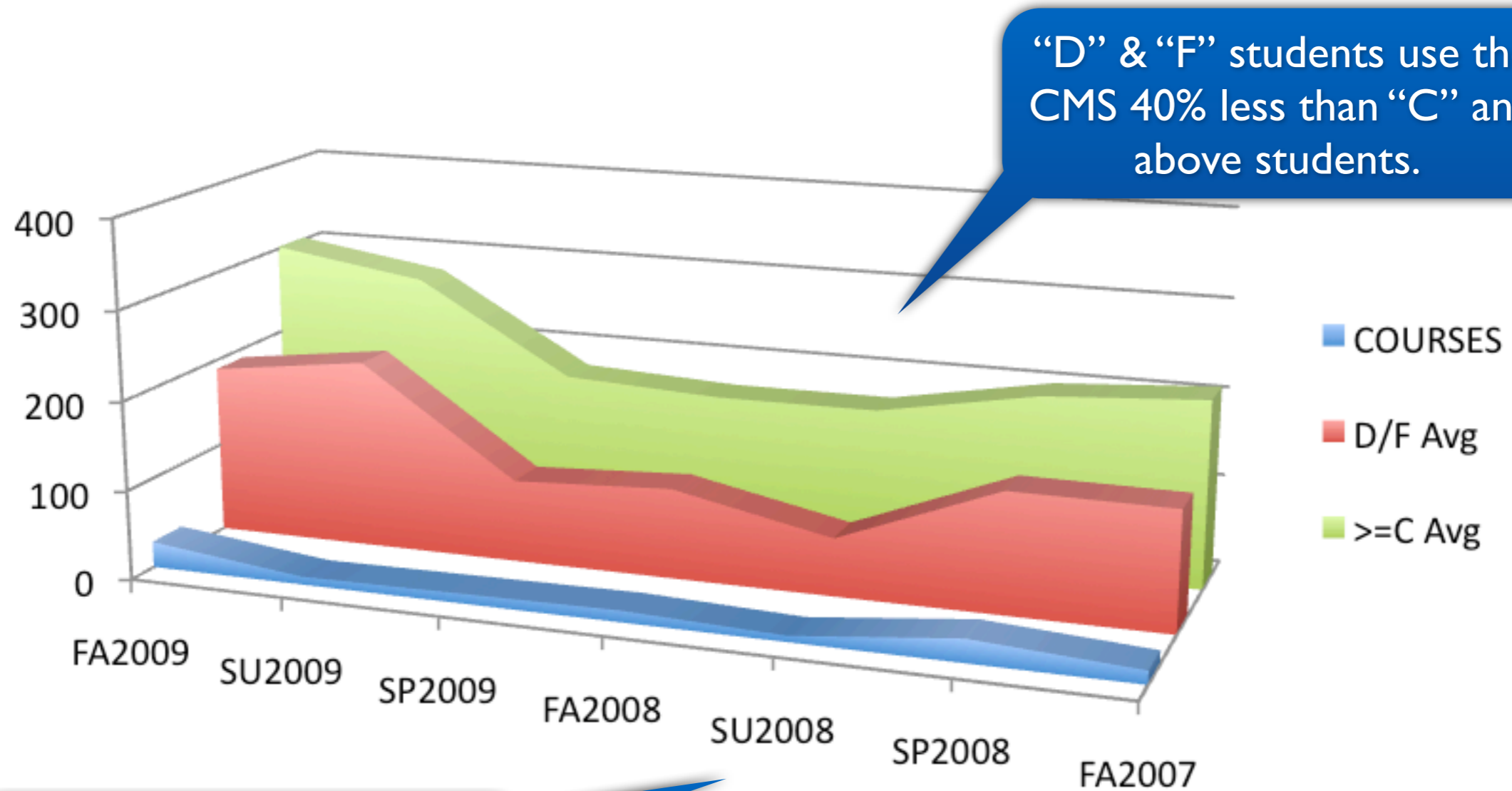
**System Announcements**  
No system announcements.

**Course Activity** [what's this?](#)

Course	You	Course (Avg)	Grade Distribution
CMPE 321	9	108	<a href="#">check</a>
CRAB 101	0	25	<a href="#">check</a>
deb	0	147	<a href="#">check</a>
LLC 600	461	240	<a href="#">check</a>
LLC 644	102	109	<a href="#">check</a>
SCI 100	3	124	<a href="#">check</a>

Note: Your grade is indicated in red.

Grade	Hits	Users	Avg. Hits Per User	Sessions	Avg. Sessions Per User
0	1079	11	98	88	8
4	170	1	170	15	15
6	105	1	105	11	11
7.5	78	1	78	7	7
8	186	1	186	18	18
8.5	1102	9	122	97	11
9	1976	12	165	163	14
9.5	2514	18	140	192	11
10	3467	23	151	304	13
10.	243	1	243	22	22
<b>Total</b>	<b>10920</b>	<b>78</b>	<b>140</b>	<b>917</b>	<b>12</b>



“D” & “F” students use the CMS 40% less than “C” and above students.

Those students that find and use My Course Activity become consistent users.



# Progress and Course Engagement

Predicts with 70% accuracy a “C” or better...

The logo for Rio Salado College, featuring the text "Rio Salado College" in a serif font, with a stylized blue wave graphic to the right of the word "College".

Rio Salado  
College

...at the end of week 1!

# Degree Compass

**Austin Peay State University** WEB SELF SERVICE

Personal Information | Student | **Faculty Services** | Employee | Financial Aid and Veterans Affairs | Information Technology Requests

Student Course Recommendations

Select New Student  
Update Recommendations

Next Evaluation Date: 11-JUL-11

The following recommendations are based on your academic history and your degree needs. The **Rating** and **Projected Grade** shown is only a projected estimation based on your previous academic performance.

#	RATING	PROJECTED GRADE	COURSE	TITLE	PROGRAM	REGISTERED
1	★★★★★	★★★★★	COMH-1010	Fund of Public Speaking	General Education Requirements	Fall Semester 2011
2	★★★★★	★★★★★	HIST-2010	American History I	General Education Requirements	Fall Semester 2011
3	★★★★★	★★★★★	ENGL-1020	English Composition	General Education Requirements	Fall Semester 2011
4	★★★★★	★★★★★	HIST-2020	American History II	General Education Requirements	
5	★★★★★	★★★★★	ENGL-2030	Traditions in World Literature	General Education Requirements	
6	★★★★★	★★★★★	PSY-1010	General Psychology	General Education Requirements	
7	★★★★★	★★★★★	MATH-1330	Elements of Statistics	Biology Major General Education Requirements	
8	★★★★★	★★★★★	SOC-2010	Intro to Sociology	General Education Requirements	
9	★★★★★	★★★★★	BIOL-1011	Principles of Life Lab	General Education Requirements	
10	★★★★★	★★★★★	BIOL-1010	Principles of Life	General Education Requirements	
11	★★★★★	★★★★★	HHP-1250	Wellness Concepts and Practice	General Education Requirements	Fall Semester 2011
12	★★★★★	★★★★★	MATH-1010	Mathematical Thought and Proof	General Education Requirements	
13	★★★★★	★★★★★	BIOL-1041	Physical Geology Lab	Biology Major General Education Requirements	
14	★★★★★	★★★★★	SCON-2010	Principles of Macroeconomics	General Education Requirements	
15	★★★★★	★★★★★	BIOL-2011	Human Anat and Phys Lab	General Education Requirements	
16	★★★★★	★★★★★	MUS-2240	Foundations of Music Education	Professional Education Major	
17	★★★★★	★★★★★	POLS-2010	American National Government	General Education Requirements	
18	★★★★★	★★★★★	BIOL-1040	Physical Geology	Biology Major General Education Requirements	
19	★★★★★	★★★★★	BIOL-2010	Human Anat and Physiology	General Education Requirements	
20	★★★★★	★★★★★	COMM-2020	Media, Society, and Individual	General Education Requirements	
21	★★★★★	★★★★★	HHA-2010	Tech Appl for H&B and Hum Ref	Professional Education Major	
22	★★★★★	★★★★★	AAST-2200	Intro African American Studies	General Education Requirements	
23	★★★★★	★★★★★	BIOL-1021	Diversity of Life Lab	General Education Requirements	
24	★★★★★	★★★★★	ASTR-1010	Planetary Astronomy	Biology Major General Education Requirements	
25	★★★★★	★★★★★	ASTR-1011	Planetary Astronomy Lab	Biology Major General Education Requirements	
26	★★★★★	★★★★★	SOC-2030	Social Problems	General Education Requirements	
27	★★★★★	★★★★★	GEOL-1010	Physical Geography	General Education Requirements	
28	★★★★★	★★★★★	WB-2080	Women and Culture	General Education Requirements	
29	★★★★★	★★★★★	BIOL-1020	Diversity of Life	General Education Requirements	
30	★★★★★	★★★★★	MUS-3140	Intro to Music Technology	Professional Education Major	
31	★★★★★	★★★★★	ASTR-1021	Stellar Astronomy Lab	Biology Major General Education Requirements	
32	★★★★★	★★★★★	ASTR-1020	Stellar Astronomy	Biology Major General Education Requirements	

Can predict semester GPA within .02

Predicts, with 90% accuracy, whether a student succeeds with a "C" or better.

# Pearson LearningStudio

[Request a Demonstration](#)

## Why LearningStudio?

Experience online learning without limits



## Customer Success

Read case studies and see success stories



## Partner Network

Access integrated services from our partners without limits



## Contact Us

Tell us how we can improve service for you without limits



# Engaging interactions





Finding an optimized path  
*for a desired future.*



## Desire2Learn® Analytics

Assessment of student learning is at the heart of institutional effectiveness. Desire2Learn Analytics provides organizations a powerful set of tools and comparative statistics for tracking, analyzing, and assessing student achievement over time and at multiple levels, including course, program, institution and system. Whether it's for accreditation, for strategic planning, or a meeting of the Trustees, Desire2Learn provides organizations a competitive edge by transforming student learning data into simple, yet actionable reports which shows patterns of risks as well as opportunities for improvement.





Samantha Miller

4 Courses

67%

STUDENT AVERAGE

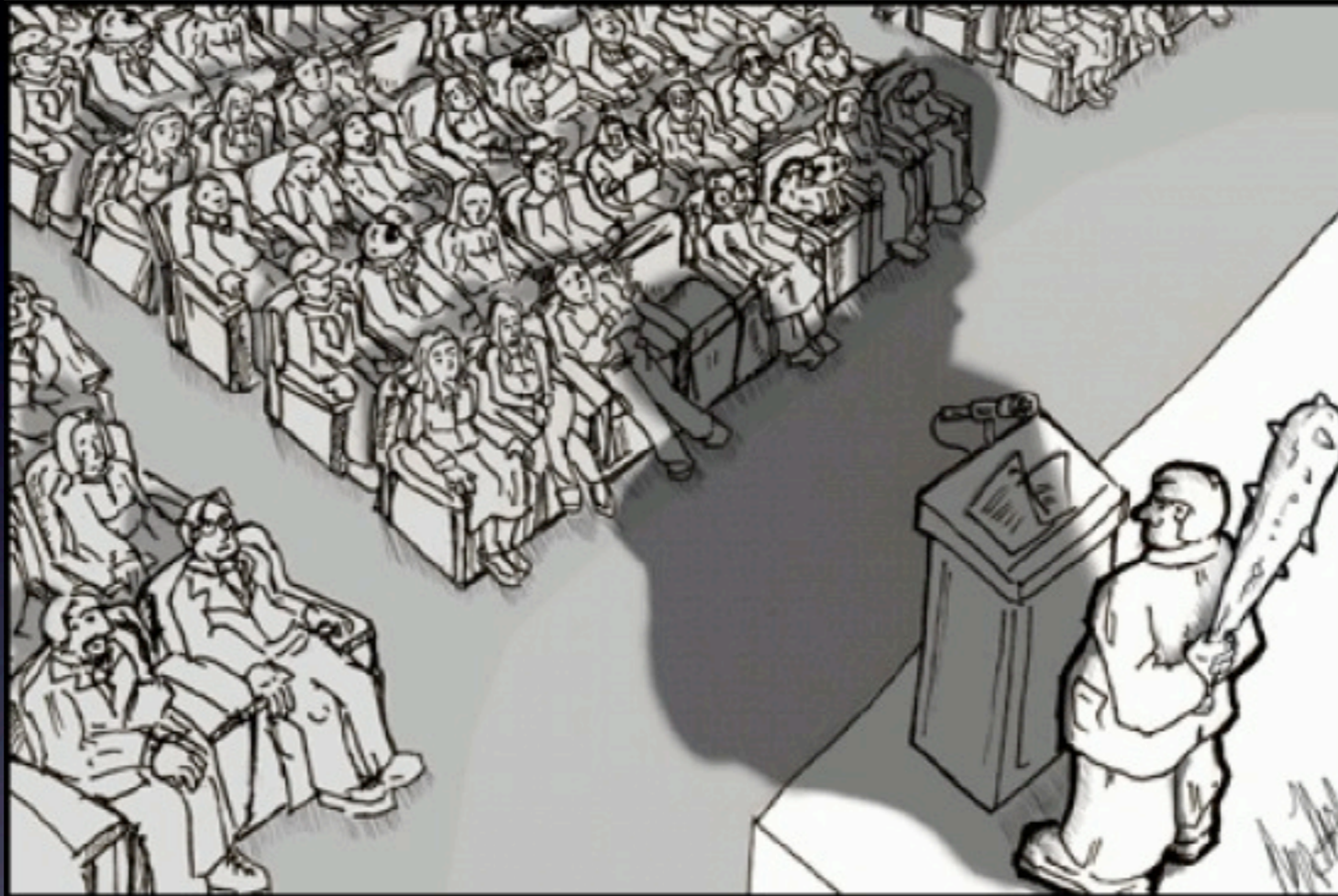
MODERATE RISK

STUDENT STATUS

Student	Grade	Participation	Completion Time
 Samantha Miller	● 67%	● Less Active	● On Time
 Dennis Jackson	● 84%	● Very Active	● On Time
 Franko Peters	● 75%	● Not Active	● On Time



© AcademicKeys.com



"Dean addressing the school's faculty meeting:  
'Faculty governance is the essence of my administration!'"

# *Variables*

# SIS

- GPA data
- Admittance data (SATs, ACTs, EI)
- Gender
- Ethnicity
- Major
- Distance from home
- Credits earned
- Courseload
- Science/non-science data
- More...



# CMS

- Login frequency
- Emails sent
- Forum activity
- Assessment scores
- Files opened/downloaded
- Calendar usage
- Social analysis

# Other Data

- Advising records
- Library records
- Career services records
- Tutoring/learning center records
- Co-curricular records
- Instructional technology usage data