QUESTION: Is SEAS being deployed successfully?

Table 1: Student Early Alert System (SEAS) End-of-Term Fall 2017 (COURSE LEVEL Univariate)
569 class sections, 322 instructors (unique headcount) & 9,687 students (unique headcount, 71% of census degree bound students)

College/Department	Section counts		% students at risk
Total	569	100%	*23.8%*
Business	85	14.9%	*19.0%*
Education	52	9.1%	*18.5%*
Engineering	54	9.5%	*29.4%*
Fine Arts	33	5.8%	*16.5%*
Health Professions	81	14.2%	*21.2%*
LAS Humanities	85	14.9%	*25.5%*
LAS Natural Sciences & Math	70	12.3%	*34.8%*
LAS Social Sciences	98	17.2%	*20.6%*
LAS Other	8	1.4%	*low count*
Other College Units (Honors/IIC)	3	0.5%	*low count*
(see SEAS College Division Participation Report for department counts)			

	enrolled	at risk	% students at risk
Mean # of students per class	32.0	7.3	23.8%
# Students on Census in SEAS participating class:			9,687
% of all students on Fall census:			64.2%
% all degree bound students on fall census:			71.0%
% undergraduate degree bound on fall census:			88.3%

Class Dimensions:	Section Counts		% students at risk
Course number group:		100%	
0 thru 99	7	1.2%	*low count*
100 thru 199	146	25.7%	*29.9%*
200 thru 299	95	16.7%	*22.9%*
300 thru 399	147	25.8%	*22.9%*
400 thru 499	77	13.5%	*19.7%*
500 thru 599	38	6.7%	*23.6%*
600 thru 699	30	5.3%	*21.2%*
700 thru 799	14	2.5%	*13.2%*
800 thru 899	13	2.3%	*9.1%*
900 thru 999	2	0.4%	*low count*
Time of day:		100%	
morning	237	41.7%	*25.0%*
afternoon	109	19.2%	*20.3%*
evening	79	13.9%	*22.7%*
arranged	144	25.3%	*24.8%*
Meetings per week:		100%	
meets 1 weekday	96	23.4%	*18.0%*
meets 2 weekdays	268	65.4%	*22.4%*
meets 3 weekdays	39	9.5%	*36.0%*
meets daily	7	1.7%	*low count*
Day of class:		100%	
Monday only	22	5.4%	*16.3%*
Tuesday only	26	6%	*20.3%*
Wednesday only	23	6%	*17.3%*
Thursday only	16	4%	*23.0%*
Mon & Wed	105	26%	*21.5%*
Tues & Thur	161	40%	*23.2%*
Mon, Wed, Fri	34	8%	*38.8%*
other	20	5%	*24.4%*

Class Dimensions:	Section Counts		% students at risk
Class Type:		100%	
Lecture	486	85%	*23.7%*
Lab	34	6.0%	*18.3%*
Experiential	19	3.3%	*23.8%*
Activity Course	4	0.7%	*low count*
Seminar	8	1.4%	*low count*
Other	18	3.2%	*36.6%*
Delivery Method:		100%	
HYB Hybrid	55	9.7%	*24.2%*
HYO Hybrid Online	2	0.4%	*low count*
IIE Internet Only	133	23.4%	*23.7%*
TCI Traditional Classroom	379	66.6%	*23.8%*
General Education:		100%	
non Gen Ed	404	73.6%	*23.5%*
Gen Ed Introduction	95	17.3%	*26.2%*
Gen Ed Further Study	50	9.1%	*24.3%*
Gen Ed I & P	20	3.6%	*15.5%*
Basic skills:		100%	
Basic Skills crs	57	10.0%	*34.8%*
Non Basic Skills crs	512	90.0%	22.5%
Instructor Type:		100%	
Faculty	204	63.4%	*22.7%*
Lecturer	45	14.0%	*21.1%*
GTA	43	13.4%	*26.7%*
Unclassified	30	9.3%	*17.2%*

Summary: With 64.2% of all students and 88.3% of all degree bound undergraduate students in a SEAS participating class, deployment of SEAS is exceeding expectations, especially given this is a voluntary commitment by faculty. Review of the class dimensions reflect participation in nearly every level of measurement from across colleges, course levels, time and day of week, class types and methods, general education and basic skills and instructor type. A notable increase this year was an increase in GTAs who now are equivalent to lecturers in participating SEAS classes, especially important given the concentration of GTAs in lower level course offerings.

QUESTION: Is there a relationship between SEAS risk and at-risk populations and does SEAS change behavior?

Table 2: Student Early Alert System (SEAS) End-of-Term Fall 2017 **(STUDENT LEVEL Bivariate)**
(sample: unique count 9,687 students in SEAS participating classes; source: end of term data from BIPMS SS_SEAS)

All Students in SEAS courses at end of term (includes undergraduate and graduate)

total students	not at-risk	at-risk	% at-risk	Risk type:	of all eligible SEAS stds	of those marked at-risk	% removed from at-risk after notification
9,687	6,997	2,690	27.8%	attendance	9.6%	33.2%	34.6%
71% of Fall 2017 census degree bound students (UG & GR)				participation	7.5%	26.0%	38.0%
8,772	6,226	2,546	29.0%	assignments	17.6%	60.6%	30.0%
88% of Fall 2017 census degree bound students undergraduates				exams	19.1%	65.8%	37.9%

students who withdraw after at-risk notification:**			**num at-risk dimensions per student marked at-risk:**		
num withdrew from course after notification	513 *(20.1% of at-risk)*	at-risk dimension count	100%	cuml %	
of withdrawals % within 1 week of at-risk	52.2%	1	53.9%	54%	
of withdrawals % within 2 week of at-risk	12.9%	2	24.7%	79%	
of withdrawals % within 3 week of at-risk	34.9%	3	10.8%	89%	
		4	10.5%	100%	

Bivariate Comparison of Undergraduates degree bound in SEAS Participating Classes

CAUTION-- differences are impacted by course selectivity bias

Dimension:	All UG	not at-risk*	at-risk1*	Dimension:	All UG	not at-risk1*	at-risk1*
unique head counts	8,772	6,226	2,546	**Academic performance:**			
	100%	71.0%	29.0%	cumulative hours	83.3	85.1a	78.8b
Major type:	100%	100%	100%	cumulative gpa	3.07	3.24a	**2.65b^**
Bachelor degree major	80.5%	80.8%a	79.8%a	WSU gpa	2.98	3.20a	**2.44b^**
Bachelor field major	0.9%	0.9%a	1.0%a	transfer gpa	3.27	3.35a	3.06b
Bachelor general studies	2.6%	2.5%a	3.0%a	% cumulative gpa <2.00	4.8%	1.7%a	**12.4%b^**
Pre Major	15.9%	15.9%a	16.2%a	WSU gpa <2.00	9.1%	4.0%a	**21.8%b^**
				% current probation	8.2%	4.1%a	**18.2%b^**
% Undecided Major	*3.9%*	*3.6%a*	*4.7%b*	% with probation history	21.4%	14.5%a	**38.2%b^**
Student class:	100%	100%	100%	**Performance scores (means):**			
freshmen	14.7%	13.4%a	**18.1%b^**	ACT(incl SAT)	23.1	23.4a	22.3b
sophomore	18.1%	18.7%a	16.8%b	incoming academic ability**	37.9	41.3a	**29.2b**
junior	23.1%	22.9%a	23.6%a	probability on probation 1st year	8.7%	8.0a	10.5b
senior	44.0%	45.1%a	41.5%b	High School gpa or application gpa	3.39	3.43a	3.32b
new student	27.2%	27.1%a	27.5%a	High School percentile	67.4	69.4a	62.4b
				remedial need	33.8%	32.1%a	38.2%b
Demographics:							
age in years (mean)	22.9	22.9a	23.0a	**SSC Degree Completion & Risk:**			
% female	53.4%	55.8%a	47.6%b	SSC graduation probability	54.3%	59.5%a	41.6%b
% under-represented minority**	18.9%	17.1%a	23.2%b				
Residency:	100%	100%	100%	Degree completion low risk	41.2%	46.7%a	**27.9%b^**
resident	84%	84.5%a	**81.3%b^**	Degree completion moderate risk	29.2%	31.0%a	24.8%b
non-resident	9.5%	9.5%a	9.5%a	Degree completion high risk	29.6%	22.4%a	**47.3%b^**
international	7.0%	6.1%a	9.2%b				
% first generation	44.3%	42.9%a	47.5%b				
% family income <= 125% of poverty	16.0%	15.3%a	17.7%b				
% on financial aid	79.1%	80.8%a	75.1%b				
% in university housing	12.1%	12.5%a	11.1%a				

* Values in the same row not sharing the same subscript (a or b) are significantly different at p< .05 level; **bold** values with ^ are meaningfully significant at moderate or higher level.

** **under-represented minority** includes American Indian/Alaskan Native, Black non-Hispanic, Hawaiian & Hispanic; **incoming academic ability** is a standardized composite of HS gpa, HS percentile and ACT/SAT (0-100 lower scores the greater likelihood of academic failure); **low income** is defined as total family income (2016 dollars, cpi) at or below 125% of the poverty threshold based on family size.

Summary: While there are few statistically significant differences between at-risk and non-risk students among academic profiles and demographic measures, there are several academic performance measures where at-risk students are performing below non-risk students. These findings support the assumption that SEAS risk behavior dimensions (attendance, participation, assignments, exams/quizzes) are correlated with behavior that increases the odds of being academically at-risk. The data also supports the belief that informing students of their behavior risk during the semester can cause students to modify their behavior to reduce risk.

QUESTION: Does SEAS behavioral risk activity have an independent impact on performance outcomes net of controls?

Table 3: Student Early Alert System (SEAS) End-of-Term Fall 2017 **(Multi-variate Analysis)**

Course-level analysis (OLS regression) regressing predictors on course grade gpa outcome (dependent variable = course grade gpa 0 - 4) among undergraduate degree seeking SEAS students.

Predictors (predicting end of term class gpa)	unstd beta	std beta	sig.	share of unique
SEAS Risk dimensions:				
attendance risk (0,1)	-0.389	-0.127	0.000	11.6%
Demographics:				
age in years	n/a (student earned hours is proxy)			
female (0,1)	0.168	0.063	0.000	2.6%
under-represented minority* (0,1)		not significant		
first generation (0,1)		not significant		
low income <= 125% of poverty (0,1)	-0.156	-0.045	0.003	1.4%
international (0,1)		not significant		
university housing (0,1)		not significant		
Academic status:				
enrolled full-time (0,1)		not significant		
cumulative earned hours (student class proxy)	0.004	0.130	0.000	8.0%
student is college division major (0,1)	0.123	0.045	0.005	1.2%
undecided major (0,1)		not significant		
Performance & entering academic ability:				
history of probation	-0.903	-0.334	0.000	72.6%
incoming academic ability composite*	0.046	0.065	0.000	2.6%
Rsq	0.308		0.000	

Summary: The above OLS regression shows that class attendance issues have a negative independent impact on end-of-term gpa net of controls. These findings lend support to the argument that SEAS dimensions not only correlate with negative academic performance but that SEAS dimensions can have an important negative consequences on performance outcomes.

Student-level analysis (logistic regression) regressing predictors on SEAS risk indicator (dependent variable = SEAS risk 0,1 where 1=risk) among undergraduate degree seeking SEAS students.

Predictors (predicting at-risk student)	beta	sig.	odds of risk	
Demographics:				
age in years	n/a (student earned hours is proxy)			
female (0,1)	-0.131	0.012	0.878	12% less likely
under-represented minority* (0,1)	0.184	0.004	1.201	20% more likely
first generation (0,1)	0.160	0.003	1.174	17% more likely
low income <= 125% of poverty (0,1)	0.153	0.004	1.158	16% more likely
international (0,1)		not significant		
university housing (0,1)		not significant		
Academic status:				
enrolled full-time (0,1)	-0.269	0.000	0.764	24% less likely
cumulative earned hours (student class proxy)	-0.002	0.000	0.998	.01% less likely per hour
undecided major (0,1)		not significant		
Performance & entering academic ability:				
history of probation	1.066	0.000	2.904	190% more likely
incoming academic ability composite*	-0.117	0.000	0.890	11% less likely per increase

* Under-represented minority includes Black non-Hispanic, Hispanic, American Indian, Alaskan Native & Hawaiian; incoming academic ability is a standardized composite of application gpa and high school percentile (ACT/SAT has no significance).