

# Historical Roadblock Courses:

## OSU Courses Correlated with High Undergraduate Student Academic Difficulty and Attrition

Based on Historical Predictive Analytics Data and Current DFWU Rates



The following table summarizes the overlap between courses that have historically been predictive of attrition as well as courses that currently have the highest rates of undergraduate students earning a DFWU<sup>1</sup> grade. Together, these two analyses help to identify courses which if targeted for improvement, may contribute to increases in overall undergraduate student success.

OSU's Institutional Reports, generated by EAB's Student Success Collaborative, provide predictive analytics data based on historical student performance, including which courses are most predictive of graduation/attrition from OSU (as noted in the Predictive Course Rank column). The SSC analysis includes all degree-seeking undergraduate students who began at OSU between 9/27/2004 - 3/28/2011 (N = 34,895). The 2011 cutoff ensures that each cohort of students was given at least four years to graduate, allowing for analysis by graduation rate. The top 40 most predictive courses in the SSC historical data were cross-referenced with current (AY 2014-15) data that identified the courses in each college in which undergraduate students earned the highest number and rates of DFWU grades. That data was further refined to isolate the high-enrollment high DFWU courses. The following 28 courses have historically been predictive of graduation/attrition and are also where high numbers of current students still experience significant challenges.

Course	Course Title	College	Total Enrolled 2014-15	DFWU Rate	Predictive Course Rank	Bacc Core Category
MTH 111	College Algebra	COS	1654	36.0%	10	Skills, Math
CH 201	Chemistry for Engineering Majors	COS	980	34.0%	29	Pers. Physical Sci
MTH 251	Differential Calculus	COS	2056	32.8%	6	Skills, Math
MTH 241	Calculus for Mgmt & Social Sci	COS	790	29.4%	37	Skills, Math
MTH 254	Vector Calculus	COS	1597	26.7%	19	n/a
MTH 252	Integral Calculus	COS	1628	26.5%	21	n/a
PSY 202	General Psychology	CLA	1305	25.8%	32	Pers. Soc Proc & Inst
CH 121	General Chemistry	COS	1085	25.8%	12	Pers. Physical Sci
PSY 201	General Psychology	CLA	1424	23.8%	15	Pers. Soc Proc & Inst
CH 232	General Chemistry	COS	1312	23.1%	20	Pers. Physical Sci
PH 211	General Physics with Calculus	COS	1315	22.6%	36	Pers. Physical Sci
ECON 201	Introduction to Microeconomics	CLA	2522	19.7%	3	Pers. Soc Proc & Inst
ECON 202	Introduction to Macroeconomics	CLA	1302	19.5%	24	Pers. Soc Proc & Inst
PH 212	General Physics with Calculus	COS	1237	19.2%	33	Pers. Physical Sci
MTH 306	Matrix & Power Series Methods	COS	1090	18.4%	35	n/a
BI 211	Principles of Biology	COS	1064	18.2%	17	Pers. Biological Sci
CH 231	General Chemistry	COS	1609	18.1%	13	Pers. Physical Sci
MTH 112	Elementary Functions	COS	1392	18.1%	23	Skills, Math

<b>GEO 105</b>	Geography of the Non-Western World	CEOAS	694	17.9%	9	Pers. Cultural Diversity
<b>ST 351</b>	Introduction to Statistical Methods	COS	954	16.8%	31	n/a
<b>SOC 204</b>	Introduction to Sociology	CLA	1135	16.6%	7	Pers. Soc Proc & Inst
<b>BI 212</b>	Principles of Biology	COS	1059	16.4%	34	Pers. Biological Sci
<b>GEO 300</b>	Sustainability for the Common Good	CEOAS	1005	16.1%	25	Synthesis, CGI or STS
<b>WR 121</b>	English Composition	CLA	3086	14.8%	2	Skills, Writing I
<b>HDFS 201</b>	Contemporary Families in the U.S.	PHHS	1095	13.8%	4	Pers. Soc Proc & Inst
<b>COMM 218</b>	Interpersonal Communication	CLA	1698	9.8%	14	Skills, Speech
<b>HHS 231</b>	Lifetime Fitness for Health	PHHS	4515	9.3%	1	Skills, Fitness
<b>COMM 111</b>	Public Speaking	CLA	2521	8.3%	27	Skills, Speech

**Course** – department prefix and course number

**Course Title** – official title of the course (source: OSU Catalog)

**College** – academic college where course is housed (source: OSU Catalog)

**Total Enrolled 2014-15** – number of Corvallis campus undergraduate students who enrolled in the course for credit during Fall, Winter, Spring term of the 2014-2015 academic year (excludes Audits) (source: Data Warehouse Student Transcript Data)

**<sup>1</sup>DFWU Rate** – percent of enrolled students who received a D, F, W, or U (Unsatisfactory = equivalent to C- or lower) grade in the course (source: Data Warehouse Student Transcript Data and CORE Report: ADV0461)

**Predictive Course Rank** – ranking of courses based on the distribution of grades, graduation rate for these grades, and historical enrollment; lower number indicates more predictive power (source: Student Success Collaborative historical predictive analytics data)

**Bacc Core Category** – section of the [OSU Baccalaureate Core](#) this course is approved to cover (source: OSU Catalog)