What’s New for the SSC Risk Model?

Why predictive analytics matter & key changes to improve accuracy

Benefits of Predictive Analytics

Visibility
Uncover Hidden Student Risk
- Show where risk is distributed across institution
- Surface risk that would not otherwise be visible

Early Intervention
Act Early, Avoid Later Problems
- Allow early risk prediction based on Day 1 factors
- Show early if students are off track in major

Triage
Prioritize High Risk Students
- See how students in a single list/cohort compare in terms of risk
- Decide which students to target first

Impact
Risk as Indicator of Progress
- See whether students are improving
- Reduce “pools” of risk

Early, General Guidance for Assessment & Intervention
- Supplements but does not replace individual assessment
- Reflects historical trends, not future certainty

What You Will See

No obvious changes to the platform; risk colors will remain the same

New Model Inputs
Pre-Enrollment (Day 1) Risk
Unique Aspects of Student Subpopulations
Time and Credit Accumulation

What You Can Expect
The 2.5 Risk Model overall has more accurate risk predictions due to the inclusion of pre-enrollment data, consideration of transfer coursework and multiple major codes, and a focus on more nuanced credit accumulation thresholds over time.
What’s New for the SSC Risk Model?
Overview of data points, skills analysis and risk banding for your institution

2.5 Risk Model Data Points
- Attempted Credits Trend
- Completed Terms
- Cumulative GPA
- Current Major Frequency
- D-F-W Trend
- Earned-Attempted Credit Ratio
- Estimated Skills
- First Generation Student Indicator
- GPA Trend
- Grade Variance
- High School GPA
- Lifetime Attempted Credits
- Standardized SAT/ACT Exam Scores
- Student Ethnicity
- Transfer Credit Proportion
- ...and more!

DATA POINTS
As our Data Science team created WSU’s model, they tested many different academic and demographic data factors for their predictive quality. Some of these data points are available directly in your SIS, others are derived by our Data Science team using proprietary methods. The data points used in your model include courses they took, grades earned, majors declared, the way they earned credit over time, in addition to more static facts, like whether they were a transfer student or their high school GPA. These data points have different weight in the model, and the weight varies over the progress of the student through their degree.

SKILLS ANALYSIS
The 2.5 Risk Model now has a simplified Risk Score Analysis chart within the platform. Where a student falls on the various skill spectrums is influenced by a combination of factors including:

- Ability to complete / credits accrued each term
- Progress toward degree / credits attempted each term
- Course performance
- Coursework at prior institutions
- High school and standardized testing

A student’s percentile score for each skill is ranked in comparison to the performance of students who have graduated in the same major historically at your institution.

RISK COLOR THRESHOLD
There are several ways to segment risk scores into bands of risk color based on how your institution thinks about risk and wants to prioritize student outreach. WSU has selected our default recommended threshold which divides your historical student population into thirds.
What’s New for the SSC Risk Model?

SNAPSHOT
Each member receives a risk comparison “snapshot” explaining how the new 2.5 risk model compares to the 2.0 version. Larger trends you’ll notice, based on WSU’s graphs to the right are less gray students and a more intuitive patterns of red, yellow, green risk color across GPA bands and credit groups.

MODEL ACCURACY
Your model is compared to a baseline model that only uses accumulated credits and cumulative GPA as predictors. This is the type of rule-of-thumb based approach that academic advisors intuitively know is useful. Additional accuracy over the baseline model indicates that SSC’s risk model provides more information and guidance for the task of identifying students at risk of not graduating.

Risk Comparison Snapshot

Accuracy for Students with Accumulating Credits
What’s New for the SSC Risk Model?

**TOP 10 MAJOR ACCURACY**
For the top 10 majors at WSU, we can see the 2.5 risk model beats the baseline for 8/10 majors. Many of these majors are showing Kappa scores at .4 or higher which is considered, among social science researchers, a good indicator of accuracy. For majors that do not beat the baseline, it’s most likely due to variances in that specific student population and the availability of data.

![Accuracy for Students Who Declared a Top 10 Most Declared Major](image)

**TRANSFER ACCURACY**
For both transfer and non-transfer students, the 2.5 risk model is beating the baseline. With the inclusion of data points like transfer student indicator and transfer credit proportion we have strengthened the model with facts that were not previously known about the general student population.

![Accuracy for Transfer / Non-Transfer Students](image)