Expand your analytical capabilities throughout the student lifecycle

A brief guide to modules for IBM SPSS Statistics Base and related products for academic institutions

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Highlights

There are many IBM SPSS software products to help you through each phase of the student lifecycle:

- Ready data for quantitative analysis with IBM SPSS Data Preparation, IBM SPSS Missing Values, IBM SPSS SamplePower and IBM SPSS Text Analytics for Surveys

- Get insight from your data with IBM SPSS Amos, IBM SPSS Advanced Statistics, IBM SPSS Bootstrapping, IBM SPSS Categories, IBM SPSS Conjoint, IBM SPSS Decision Trees, IBM SPSS Direct Marketing, IBM SPSS Exact Tests, IBM SPSS Forecasting, IBM SPSS Neural Networks and IBM SPSS Regression

- Report on your results with IBM SPSS Custom Tables and IBM SPSS Visualization Designer

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Within academia, it is more important than ever to make smart decisions that generate measurable benefits. With IBM SPSS Statistics Base and other modules, departments throughout an institution can direct and automate analyses that provide actionable information for various points of the student lifecycle. Using IBM SPSS Statistics, your institution can:

- Recruit the right students
- Prevent attrition
- Further student success
- Conduct institutional planning and assessment
- Save money and maximize resources
- Nurture alumni relationships

The result is a more efficient, successful and accountable academic environment.

In the following grid and descriptions, you'll discover how these products can help you to:

- Prepare for data collection
- Ready your data for quantitative analysis
- Conduct analyses and get insight from your data
- Report on your results
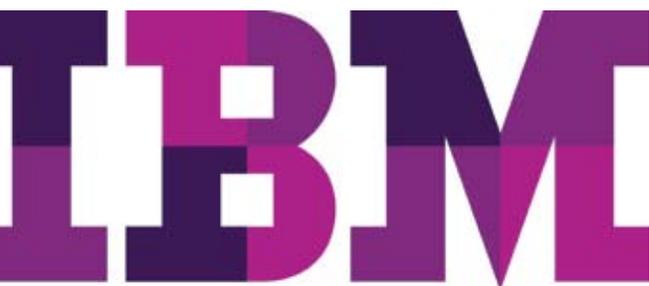
Common applications of IBM SPSS Statistics modules†

	Planning	Enrollment/ Admissions	Student Success	Retention	Assessment	Advancement/ Development
Prepare for data collection						
IBM® SPSS® Complex Samples		X	X		X	
IBM® SPSS® SamplePower®		X	X		X	
Ready data for quantitative analysis						
IBM® SPSS® Data Preparation				X		
IBM® SPSS® Missing Values				X		
IBM® SPSS® Text Analytics for Surveys				X		
Get insight from your data						
IBM® SPSS® Amos™	X				X	X
IBM® SPSS® Advanced Statistics		X	X	X		X
IBM® SPSS® Bootstrapping		X	X	X		X
IBM® SPSS® Categories	X				X	
IBM® SPSS® Conjoint		X				
IBM® SPSS® Decision Trees		X	X	X		X
IBM® SPSS® Direct Marketing		X				X
IBM® SPSS® Exact Tests	X				X	X
IBM® SPSS® Forecasting	X	X				
IBM® SPSS® Neural Networks			X	X		X
IBM® SPSS® Regression		X	X	X		X
Report on your results						
IBM® SPSS® Custom Tables				X		
IBM® SPSS® Visualization Designer				X		

† Although the uses denoted in this table are common applications of IBM SPSS Statistics module functionality, this is not an exhaustive
  list – many modules may also be helpful in situations not mentioned above.

Prepare for data collection

IBM SPSS Complex Samples
Get better research results by determining the right sample sizes for hard-to-reach audiences.
With IBM SPSS Complex Samples and specialized planning tools and statistics, you'll lessen the risk of reaching incorrect or misleading conclusions for stratified, clustered or multistage sampling – techniques which are used when analyzing hard-to-reach prospect, student or alumni populations. Additionally, these techniques enable you to reduce the amount of money, time and other resources required for data collection and analysis by helping you draw accurate conclusions from smaller samples of participants.

IBM SPSS SamplePower
(for Microsoft® Windows® only)
Calculate the proper sample size to get significant results.
SamplePower helps you to select the proper sample size for your institutional assessment needs so that you can get an accurate view of what's happening on your campus.

Ready data for quantitative analysis

IBM SPSS Data Preparation
Clean up dirty data to get more accurate results.
While data preparation tools are included in IBM SPSS Statistics Base, sometimes you need more specialized techniques to get your data ready for analysis. This module provides you with new techniques to help you streamline the

data preparation stage of your analytical process, especially in the case of routine data extraction. IBM SPSS Data Preparation makes it easy to identify invalid cases, variables and data values; view patterns of missing data; summarize variable distributions; and more thoroughly prepare your data for analysis.

IBM SPSS Missing Values
Estimate and fill in missing values to make your analyses more accurate.

Missing values are a constant in dealing with large amounts of data found in your student information systems (SIS), enterprise resource planning (ERP) systems, or business intelligence (BI) systems. IBM SPSS Missing Values helps you to overcome the problems caused by missing data by estimating what the value would be if data weren't missing. This is a key data preparation step that enables you to run analyses that you may otherwise not be able to and achieve more accurate results.

IBM SPSS Text Analytics for Surveys (for Windows only)
Save time and get more from your data by quantifying open-ended responses.

IBM SPSS Text Analytics for Surveys is a stand-alone software package that enables institutions to analyze and categorize responses to open-ended survey questions. Including textual data in your quantitative analyses can drastically improve the accuracy of your models and predictions. You'll find IBM SPSS Text Analytics for Surveys particularly helpful in analyzing student course evaluations or satisfaction questionnaires, as well as alumni surveys or any other type of study involving open-ended responses from participants.

Gain insight from your data

IBM SPSS Amos (for Windows only)
Predict outcomes based on both observed and unobserved (extrapolated) data.

Overcome the limitations of traditional regression and factor analysis with this stand-alone software for structural equation modeling (SEM). SEM enables you to model both collected data and unobserved constructs – such as feelings or attitudes derived from answers to other questions in a survey – to predict an outcome. Among other things, your institution can use Amos to:

- Examine which characteristics determine a student's aptitude for a given subject
- Pinpoint what drives students to enroll in your institution
- Predict health behaviors like drinking or drug use, based on inputs like self-image and self-esteem

IBM SPSS Advanced Statistics
Assess level of interest, analyze likelihood to "survive," predict time-to-event.

IBM SPSS Advanced Statistics helps you build more accurate, flexible models that increase insight into complex relationships within your data. Analyze the interest level of prospective students in your institution, use survival analysis to predict student retention and predict time-to-event in major gift fundraising, degree completion or student attrition.

IBM SPSS Bootstrapping
Create more reliable models that generate the most accurate results.

Your student retention and assessment programs require the most accurate and reliable models possible. IBM SPSS Bootstrapping provides you with techniques to help you quickly and easily estimate the sampling distribution of an estimator by re-sampling, reduce the impact of outliers and anomalies and create thousands of alternate versions of your dataset for more accurate analysis. This module works seamlessly with IBM SPSS Statistics Base, IBM SPSS Advanced Statistics and IBM SPSS Regression.

IBM SPSS Categories
See how a course or program is perceived in comparison to its alternatives or understand the characteristics most closely associated with your institution.

Predict outcomes and reveal relationships in categorical data. This module provides you with everything you need to analyze and interpret multivariate data and their relationships more completely. Create perceptual maps that allow you to see perceptions of your academic programs in comparison to those of your peers, what characteristics are most closely associated with your institution by prospective students and other constituents or what types of events are most preferred by alumni of different age groups.

IBM SPSS Conjoint
Understand how values and preferences weigh on the choices that your constituents will make.

IBM SPSS Conjoint gives you a realistic way to measure how various attributes affect student or constituent preferences. With IBM SPSS Conjoint, you can easily measure the tradeoff effect of each attribute in the context of the complex combination of factors that make up an offering – just as consumers do when making purchasing decisions. Better understand why a student may choose your institution over another, what attributes make a financial aid plan more attractive or even what characteristics of a residence hall make it preferable to other housing options.

IBM SPSS Decision Trees

Use easy-to-follow tree diagrams to understand how prospects, students, alumni and others break down into groups and sub-groups.

Create classification and decision trees directly within IBM SPSS Statistics Base to more easily identify groups, discover relationships between groups and predict future events. Better understand the types of applicants your institution attracts and enrolls, optimal course paths, characteristics that lead to success or attrition and how to segment alumni into groups for targeted marketing. The highly visual trees included in this module enable you to present categorical results in an intuitive manner, so you can more clearly explain categorical results to non-technical audiences.

IBM SPSS Direct Marketing

Quickly identify who is most likely to respond to your next campaign, offer or other form of interaction.

IBM SPSS Direct Marketing enables you to easily and accurately maximize the ROI of your marketing budget by providing you with tools to conduct sophisticated analyses of your students, alumni or prospective donors.

With IBM SPSS Direct Marketing, advancement officers can more effectively target campaigns, offers and appeals by segmenting alumni or other prospective donors based on the recency, frequency or monetary value (RFM) of their past gifts. Enrollment managers and institutional researchers may use this technique to analyze student success, retention and recruiting by replacing monetary values with any scale data, such as grade point average (GPA), test scores or a point scale assigned to various types of interactions. Institutional marketing or recruiting departments can also take the necessary steps to improve campaign response rates through postal code analysis, propensity scoring and control package testing. You don't need to be a statistician or programmer to use IBM SPSS Direct Marketing, because the intuitive interface enables you to classify students or donors in just a few easy steps.

IBM SPSS Exact Tests

Analyze rare occurrences in large datasets and draw conclusions based on very small samples.

Analyze your data more completely using IBM SPSS Exact Tests. More accurately work with small samples and analyze rare occurrences in large databases. For example, study the sources of major gifts in your advancement database or identify campus security threats.

IBM SPSS Forecasting

Predict trends and forecast numerical amounts.

Reliable forecasts can have a major impact on your institution's ability to develop and implement successful strategies and action plans. With IBM SPSS Forecasting, you can identify trends and quickly develop forecasts for student enrollment, as well as demand for campus resources such as classrooms, student housing and financial aid. Unlike spreadsheet programs, IBM SPSS Forecasting has the advanced statistical techniques you need in order to work with time-series data. But you don't need to be an expert statistician to use it.

IBM SPSS Neural Networks

Discern the underlying factors that lead to a given outcome.

Use IBM SPSS Neural Networks to model complex relationships between inputs and outputs or to predict outcomes. An advanced data mining technique, neural networks help you build models that adjust and automatically "learn" from each new record they see. You can use neural networks to detect patterns in your data in order to understand the underlying triggers of a given outcome. This type of analysis is useful in many different areas of an institution, including analyzing student retention, understanding student success or low achievement or assessing why donors give.

IBM SPSS Regression

Predict the likelihood of a given event to occur.

IBM SPSS Regression allows you to predict future behavior or events when your data are non-linear. In addition, regression models may provide insight as to the impact of each factor on the outcome. Using regression analysis, you can analyze a student's likelihood of staying at or leaving the institution, the propensity of an applicant to enroll, the probability a donor will respond to a specific campaign or an incoming student's predicted level of academic achievement.

Report on your results

IBM SPSS Custom Tables
Use tables and charts to clearly present the results of your analysis.
Use IBM SPSS Custom Tables to present survey, course evaluation, assessment and compliance reporting results. Features such as a table builder preview, included inferential statistics and data management capabilities make it easy to clearly communicate your results. Moreover, it's easy to export your tables to Microsoft Word, Excel®, PowerPoint® and HTML. By automating the creation and deployment of standard reports, you streamline the entire reporting process.

IBM SPSS Visualization Designer (for Windows only)
Create unique charts and graphics to display your data.
IBM SPSS Visualization Designer enables you to create unique and uncommon chart types for use within IBM SPSS Statistics when standard graphics aren't enough. Bring your detailed research findings into sharp focus so that others in your institution quickly grasp the meaning of your analysis.

About IBM Business Analytics

IBM Business Analytics software delivers complete, consistent and accurate information that decision-makers trust to improve business performance. A comprehensive portfolio of business intelligence, predictive analytics, financial performance and strategy management, and analytic applications provides clear, immediate and actionable insights into current performance and the ability to predict future outcomes. Combined with rich industry solutions, proven practices and professional services, organizations of every size can drive the highest productivity, confidently automate decisions and deliver better results.

As part of this portfolio, IBM SPSS Predictive Analytics software helps organizations predict future events and proactively act upon that insight to drive better business outcomes. Commercial, government and academic customers worldwide rely on IBM SPSS technology as a competitive advantage in attracting, retaining and growing customers, while reducing fraud and mitigating risk. By incorporating IBM SPSS software into their daily operations, organizations become predictive enterprises – able to direct and automate decisions to meet business goals and achieve measurable competitive advantage. For further information or to reach a representative visit www.ibm.com/spss.

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Business Analytics software