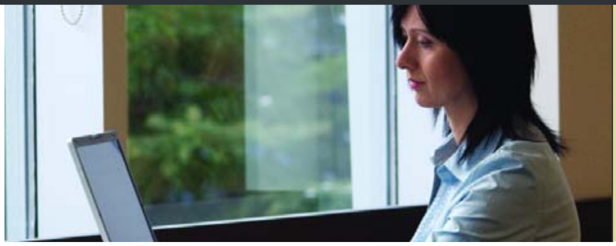
ENROLLMENT AND TUITION PLANNING



AN IBM COGNOS PERFORMANCE BLUEPRINT APPLICATION BRIEF

A WEB-BASED PERFORMANCE MANAGEMENT APPLICATION

COGNOS | INNOVATION CENTER *for Performance Management™*

INTRODUCTION

This application brief demonstrates a web-based planning and reporting process for determining university or college enrollment and tuition using IBM Cognos 8 Planning and IBM Cognos 8 Business Intelligence. For universities and colleges, planning for student enrollment and revenue is critical for forecasting staff and resource requirements, as well as ensuring future growth.

The *IBM Cognos Enrollment and Tuition Planning Performance Blueprint* provides streamlined, best-practice planning, forecasting, analysis, and reporting for student enrollment and the accompanying tuition revenue. IBM Cognos Performance Blueprints are pre-defined data, process, and policy software models developed in partnership with industry leaders. They are essentially "quickstart" data models that Cognos customers can download and implement at no extra cost.

Using the Blueprint with your Cognos performance management system, you can clearly identify your goals and track against them in a consistent, logical manner. By using "enrollment drivers" to forecast student growth, this tool gives you a simple yet powerful way to plan your institution's growth.

OVERVIEW

Most planning for student enrollment carried out today is either done at the aggregate university level, which can drain rigor from faculty-level planning, or at the faculty level, which can limit the view of the institution as a whole. It often does not inform even the most basic efforts such as class and staffing requirements, and is frequently based on manual, error-prone spreadsheets.

In a climate of global competition for top students and staff, reduced public funding, and more stringent compliance requirements, universities must be able to define long-term growth plans, analyze trends and scenarios, and plan for future excellence. Being able to plan for student growth lets institutions focus on:

- Planning for future infrastructure
- Faculty hiring and retention
- Recruiting and retaining top students
- Meeting administrative staffing needs
- Remaining competitive
- Tracking government funding and regulations
- Managing central costs

BLUEPRINT OBJECTIVES

The *IBM Cognos Enrollment and Tuition Planning Performance Blueprint*, together with your Cognos performance management software, provides a reliable, consistent modeling tool that lets you analyze current and projected enrollment not only at the faculty level but also for the entire school. The Blueprint lets you:

- Forecast enrollment and tuition revenue for resident, non-resident, and international students
- Plan at the faculty, departmental, or even course level using general or customized drivers
- Compare and analyze data using a number of scenarios
- Plan over a five-year horizon
- Slice student data by year (freshman through PhD) or by type (full-time, part-time, resident, and non-resident)
- View detailed fee listing
- Plan for grants, scholarships, and tuition discounting
- Identify revenue opportunities from both filling up unused course capacity and adding capacity to meet qualified student demand

This Application Brief describes models and processes that meet the needs of most universities and colleges, but that can easily be configured to support alternative and specific requirements to accommodate planning in any institution.

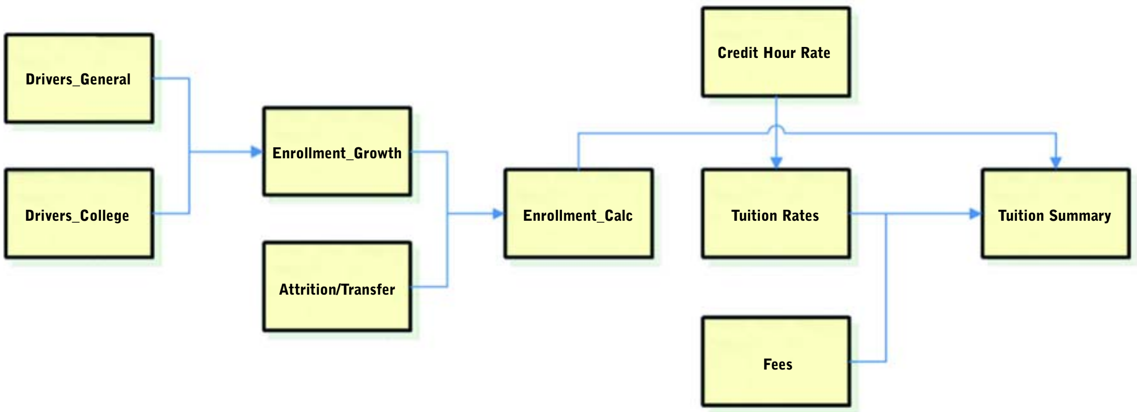
KEY IBM COGNOS 8 PLANNING BENEFITS

IBM Cognos 8 Planning, part of the Cognos performance management system, benefits organizations through its best-practice planning capabilities:

- Flexible model development to support a wide variety of planning models
- Web-based or Excel-based deployment of models for data collection and consolidation
- Easy version control
- Real-time workflow that drives collaboration
- Real-time consolidation
- Real-time reporting
- Real-time calculations in the browser for immediate results
- Audit and user textual annotations at the cell, worksheet, and model level to drive collaboration
- Drop-down validation lists for ensuring data consistency
- Scalable architecture with proven deployments to thousands of users
- Linking functionality to bridge divergent yet interrelated components of the planning environment
- Off-line capabilities
- Custom date capabilities with no limit on the time dimension, allowing planning by the week, season, period, quarter, or year
- Unique multi-directional calculation engine that allows input across any dimension at the detail or aggregate level.

MODEL DESIGN OVERVIEW

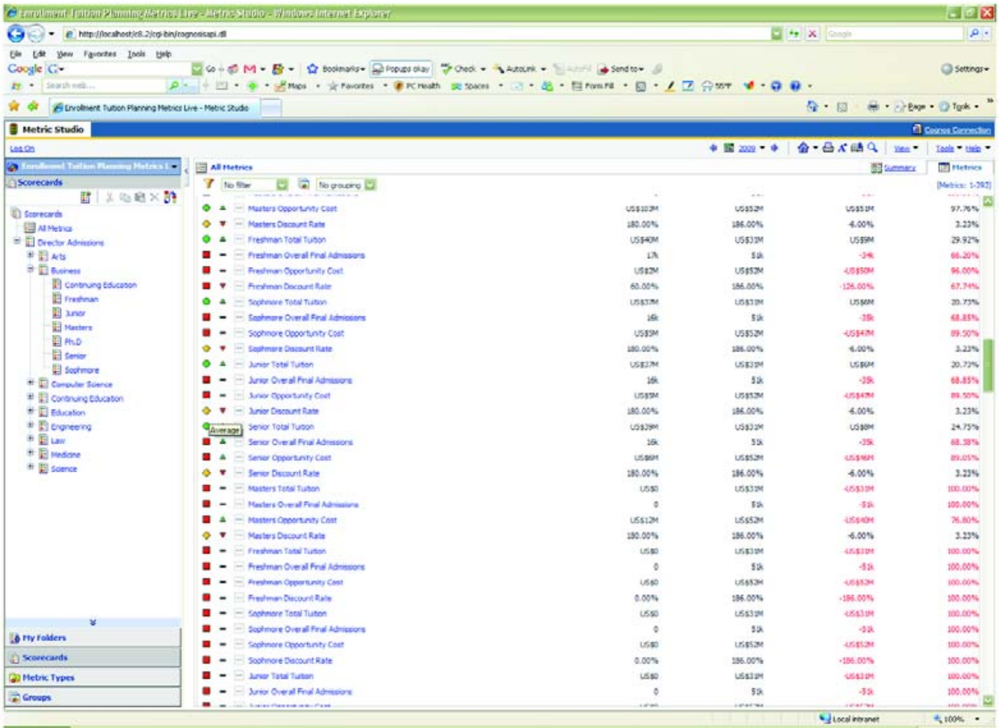
Enrollment and Tuition Planning



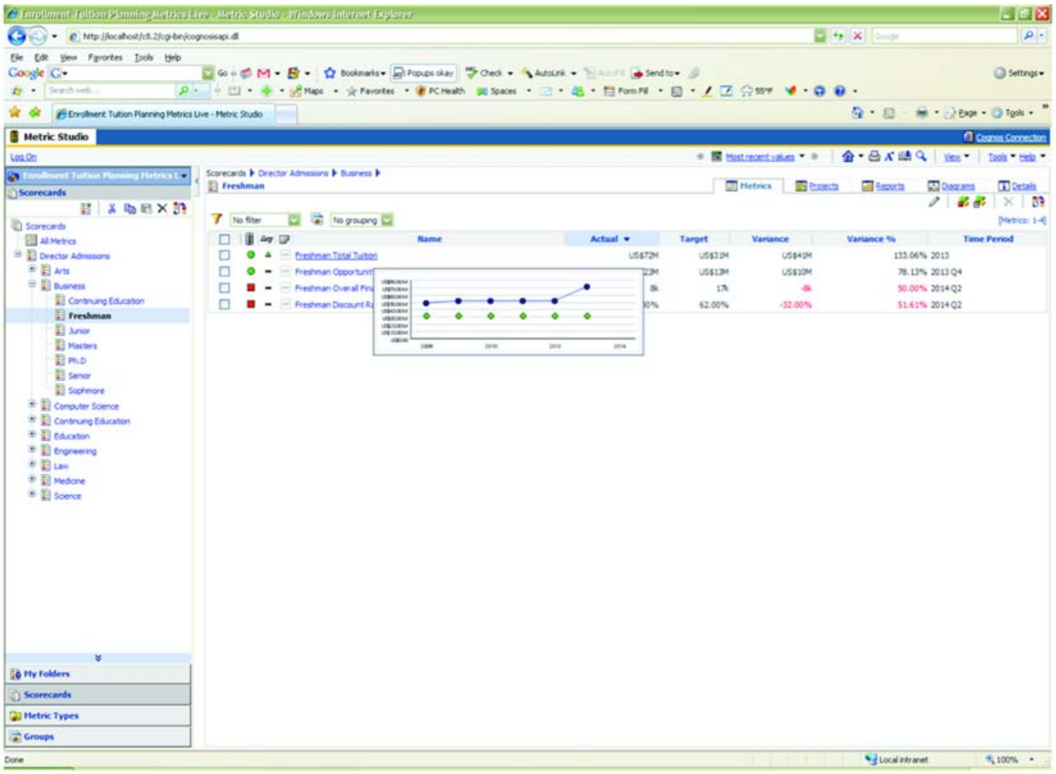
This flowchart provides a high-level overview of the enrollment and tuition planning process.

TUITION PLANNING SCORECARD

A typical planning process within a faculty might begin in an enrollment and tuition planning portal such as the Cognos scorecard below. The scorecard shows key performance metrics such as tuition revenue, enrollment, opportunity cost, and discount rates by student class.



Drilling down to view only the Freshman class metrics, the graph below shows tuition revenue targets through 2013.



As a background to planning, Cognos performance management software can provide numerical and graphical data to analyze the various angles of revenue plannning, from enrollment through to lost revenue opportunities and tuition discounting.

USING THE BLUEPRINT

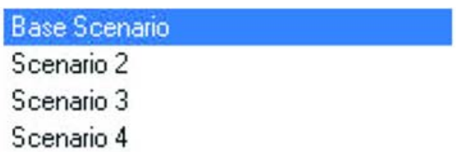
The *IBM Cognos Enrollment and Tuition Planning Performance Blueprint* was built for planning contributors at the college or faculty level. The list below reflects this approach, showing a number of typical faculties aggregating to the institutional level.

All users have the same inputs and views, but each faculty can define its own drivers for forecasting enrollment and input its particular data. Contributors specify their credit hour rates, fees, discounts, and other factors used to calculate the resulting revenue. You can modify and expand the list above to include deeper levels such as departments and even courses without changing the basic structure or components of the model.

This Blueprint displays four semesters, and projects five years out. It contains a number of key lists, including scenarios, resident status, and student class.

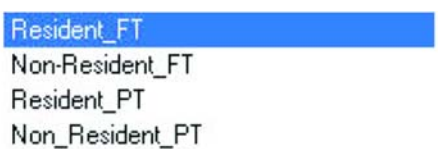
Scenario list

Use this list for "what-if" comparisons. Customize the list to define your own scenarios or versions.



Resident status list

Used in most tabs, this list is particularly important in determining revenue, because credit hour rates, fees, discounts, and a number of other factors depend on resident status.



Student class list

The items in this list are necessary to not only track retention and transfer but also to specify which drivers are applicable to each student class.

REPRESENTATIVE WORKFLOW

The *IBM Cognos Enrollment and Tuition Planning Performance Blueprint* lets faculty-level contributors forecast enrollment and tuition through IBM Cognos 8 Planning. The following describes a basic workflow in which a faculty-level contributor would:

- Review general and college drivers
- Indicate the credit hour amounts for students
- Select the enrollment drivers from the driver lists
- Enter attrition and transfer rates
- Adjust growth, attrition, and transfer
- Enter maximum student capacities
- Indicate fees
- Enter credit hours and student discounts by student type
- Review total tuition revenues for various groups

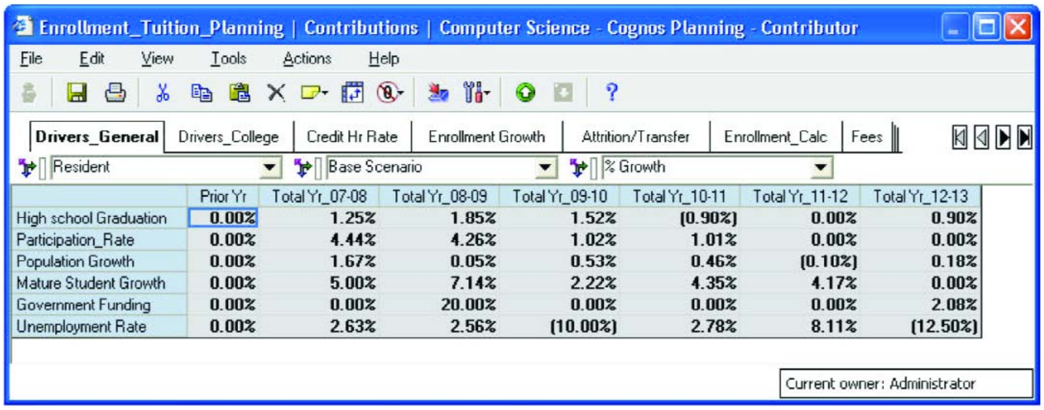
The *IBM Cognos Enrollment and Tuition Planning Performance Blueprint* displays nine tabs, which are the same for every faculty contributing.

General drivers

This is a general assumptions tab that is pre-populated with base statistics considered to drive student applications, including:

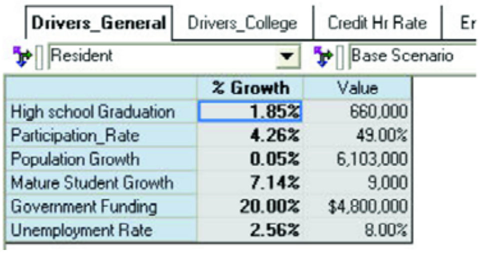
- High school graduation rate
- Participation rate
- Population growth rate
- Mature student growth rate
- Government funding
- Unemployment rate

The cells on this tab have a grey background to indicate that no input is permitted. The assumptions included in this tab will apply to all contributors.



	Prior Yr	Total Yr_07-08	Total Yr_08-09	Total Yr_09-10	Total Yr_10-11	Total Yr_11-12	Total Yr_12-13
High school Graduation	0.00%	1.25%	1.85%	1.52%	(0.90%)	0.00%	0.90%
Participation_Rate	0.00%	4.44%	4.26%	1.02%	1.01%	0.00%	0.00%
Population Growth	0.00%	1.67%	0.05%	0.53%	0.46%	(0.10%)	0.18%
Mature Student Growth	0.00%	5.00%	7.14%	2.22%	4.35%	4.17%	0.00%
Government Funding	0.00%	0.00%	20.00%	0.00%	0.00%	0.00%	2.08%
Unemployment Rate	0.00%	2.63%	2.56%	(10.00%)	2.78%	8.11%	(12.50%)

Percentage growth can be calculated using the values for the coming five years, as shown below.



	% Growth	Value
High school Graduation	1.85%	660,000
Participation_Rate	4.26%	49.00%
Population Growth	0.05%	6,103,000
Mature Student Growth	7.14%	9,000
Government Funding	20.00%	$4,800,000
Unemployment Rate	2.56%	8.00%

You can easily modify or expand general drivers to include drivers that affect your particular faculty or department.

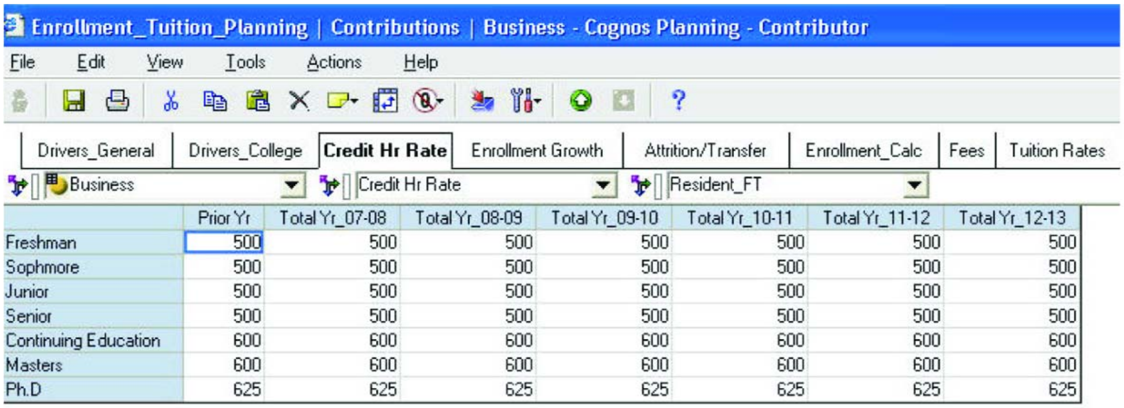
College drivers

As with general drivers, this tab also includes fixed data, but this time requires user input. It includes the driver data specific to a college or faculty, such as average grant amount awarded or average discount rate to tuition. Also included in this tab is the 'apply to admit rate' driver. Although it is not used to forecast enrollment, it will be used in calculating enrollment as a percentage of applicants.

	Prior Yr	Total Yr_07-08	Total Yr_08-09	Total Yr_09-10	Total Yr_10-11	Total Yr_11-12	Total Yr_12-13
Apply to Admit Rate	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%
% Students w_Grant	16.00%	15.40%	16.20%	15.10%	15.25%	15.75%	16.00%
% Student Grant_Peers	15.00%	15.00%	15.00%	15.50%	15.00%	15.00%	15.00%
Grant % B/(W)_Peers	**1.00%**	**0.40%**	**1.20%**	**(0.40%)**	**0.25%**	**0.75%**	**1.00%**
Average Grant Amount	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500
Average Discount Rate	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Market Share %	52.00%	52.25%	53.00%	54.60%	54.10%	55.00%	55.10%
Growth Market Share %	**0.00%**	**0.48%**	**1.44%**	**3.02%**	**(0.92%)**	**1.66%**	**0.18%**

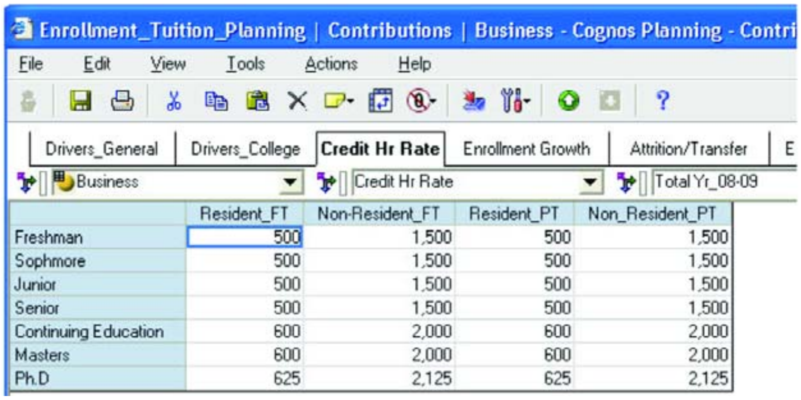
Credit hour rate

You may link the data in this tab from an existing application (such as the university general ledger) or input it manually. Indicate the credit hour amounts for full-time and part-time students, class, and resident status.



	Prior Yr	Total Yr_07-08	Total Yr_08-09	Total Yr_09-10	Total Yr_10-11	Total Yr_11-12	Total Yr_12-13
Freshman	500	500	500	500	500	500	500
Sophmore	500	500	500	500	500	500	500
Junior	500	500	500	500	500	500	500
Senior	500	500	500	500	500	500	500
Continuing Education	600	600	600	600	600	600	600
Masters	600	600	600	600	600	600	600
Ph.D	625	625	625	625	625	625	625

The difference between non-resident and resident rates can be significant, particularly for state or provincial institutions.



	Resident_FT	Non-Resident_FT	Resident_PT	Non_Resident_PT
Freshman	500	1,500	500	1,500
Sophmore	500	1,500	500	1,500
Junior	500	1,500	500	1,500
Senior	500	1,500	500	1,500
Continuing Education	600	2,000	600	2,000
Masters	600	2,000	600	2,000
Ph.D	625	2,125	625	2,125

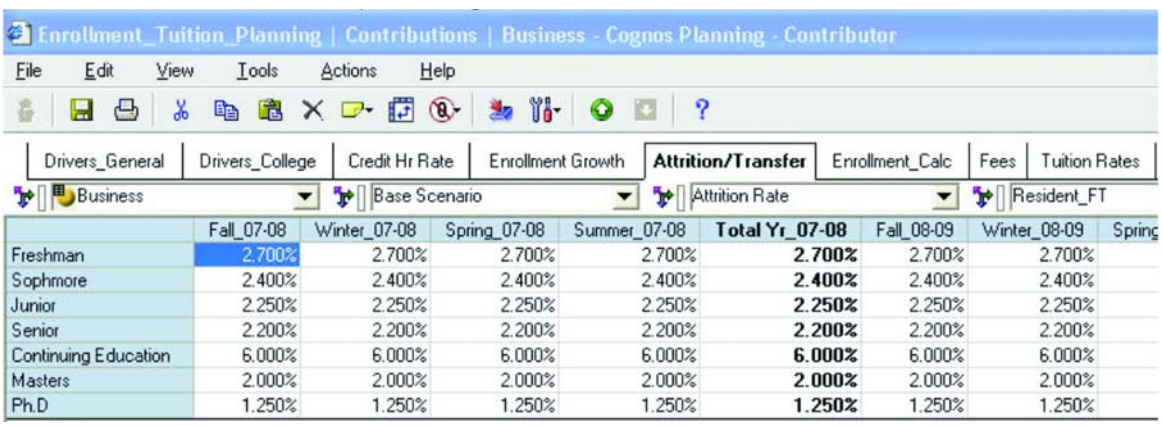
Enrollment growth

For this tab, select the enrollment drivers from the general and college drivers lists. If you select no drivers, no change will be calculated. Select the drivers for student class, full- or part-time, and resident status for each year.

	Driver_General	% Growth_General	Driver_College	% Growth_College
Freshman	High school Graduation	1.25%	Growth Market Share %	0.48%
Sophmore	Participation_Rate	4.44%	Growth Market Share %	1.33%
Junior	Participation_Rate	4.44%	Growth Market Share %	1.33%
Senior	Population Growth	1.67%	Growth Market Share %	1.33%
Continuing Education	Mature Student Growth	5.00%	Growth Market Share %	0.00%
Masters	Unemployment Rate	2.63%	Grant % B/(W)_Competition	(2.00%)
Ph.D	Participation_Rate	4.44%	Grant % B/(W)_Competition	4.59%

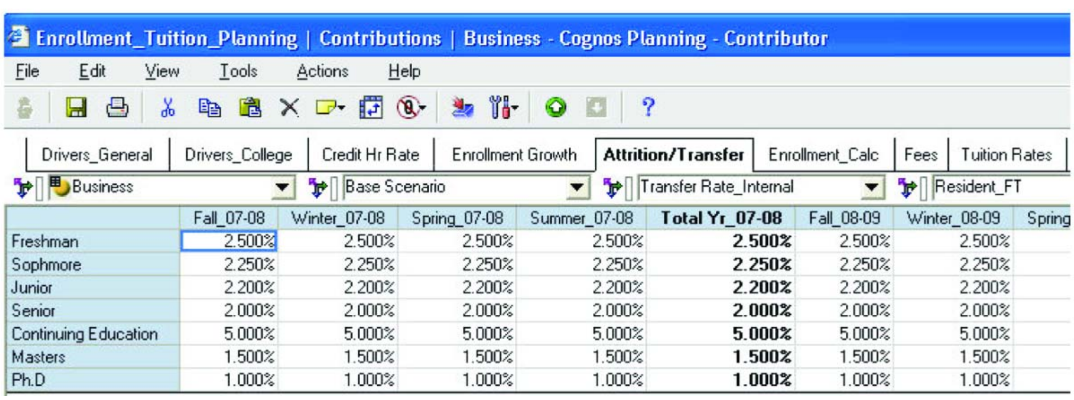
Attrition/transfer

Like the credit hour tab, this tab requires input for each type and classification of student. Attrition rates are critical in predicting enrollment.



	Fall_07-08	Winter_07-08	Spring_07-08	Summer_07-08	Total Yr_07-08	Fall_08-09	Winter_08-09	Spring
Freshman	2.700%	2.700%	2.700%	2.700%	**2.700%**	2.700%	2.700%	
Sophmore	2.400%	2.400%	2.400%	2.400%	**2.400%**	2.400%	2.400%	
Junior	2.250%	2.250%	2.250%	2.250%	**2.250%**	2.250%	2.250%	
Senior	2.200%	2.200%	2.200%	2.200%	**2.200%**	2.200%	2.200%	
Continuing Education	6.000%	6.000%	6.000%	6.000%	**6.000%**	6.000%	6.000%	
Masters	2.000%	2.000%	2.000%	2.000%	**2.000%**	2.000%	2.000%	
Ph.D	1.250%	1.250%	1.250%	1.250%	**1.250%**	1.250%	1.250%	

The transfer rate in this tab refers to internal transfers, such as when a business student transfers to engineering. While this does not represent a loss to the university, it is meaningful to the faculty.

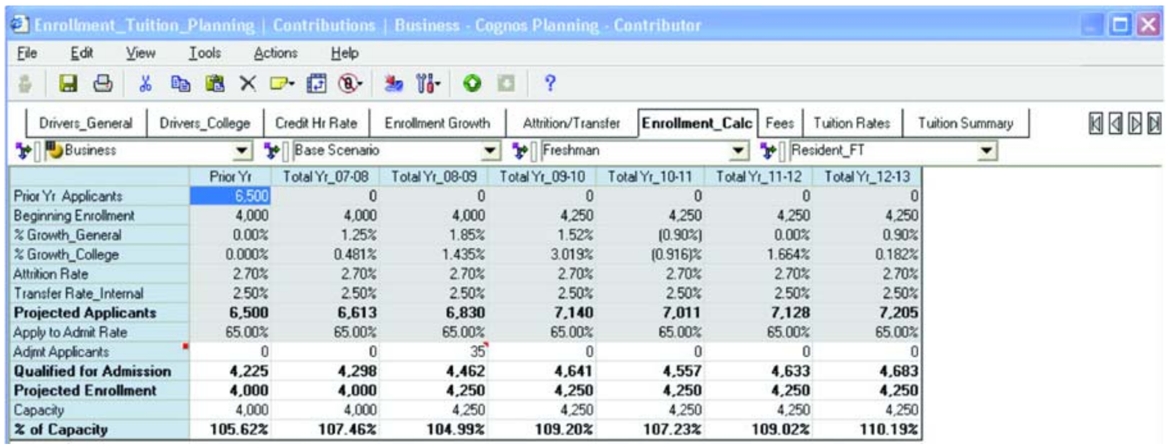


	Fall_07-08	Winter_07-08	Spring_07-08	Summer_07-08	Total Yr_07-08	Fall_08-09	Winter_08-09	Spring
Freshman	2.500%	2.500%	2.500%	2.500%	**2.500%**	2.500%	2.500%	
Sophmore	2.250%	2.250%	2.250%	2.250%	**2.250%**	2.250%	2.250%	
Junior	2.200%	2.200%	2.200%	2.200%	**2.200%**	2.200%	2.200%	
Senior	2.000%	2.000%	2.000%	2.000%	**2.000%**	2.000%	2.000%	
Continuing Education	5.000%	5.000%	5.000%	5.000%	**5.000%**	5.000%	5.000%	
Masters	1.500%	1.500%	1.500%	1.500%	**1.500%**	1.500%	1.500%	
Ph.D	1.000%	1.000%	1.000%	1.000%	**1.000%**	1.000%	1.000%	

Enrollment calculation

This tab contains data linked from the enrollment growth and attrition/transfer tabs (grey areas), projecting number of applicants. You can input an adjustment to that value based on any factors that were not taken into account.

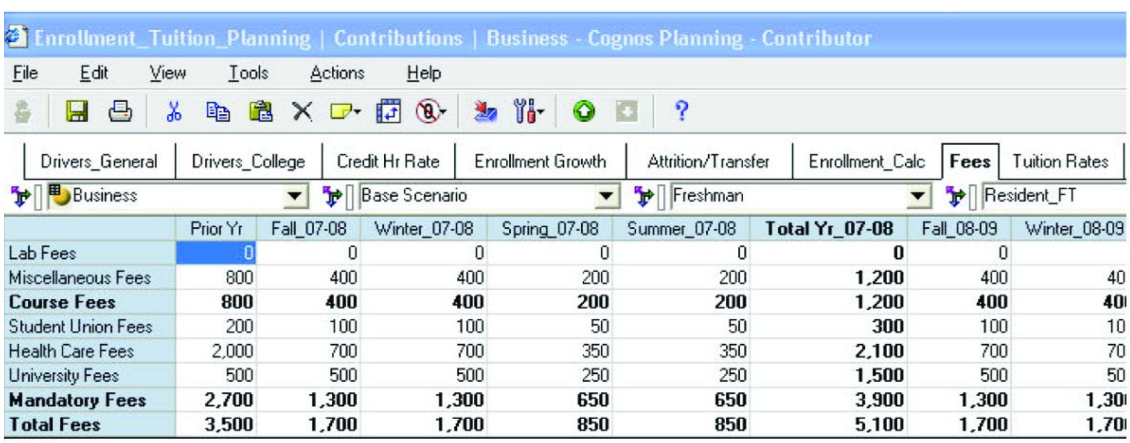
You also use this tab to input the maximum capacity for each type of student. Below, prior year enrollment and activity is set at 4,000. Dividing the number of students qualified for admission by the maximum capacity results in % of capacity. This number is also used to calculate lost revenue opportunity in the tuition summary.



	Prior Yr	Total Yr_07-08	Total Yr_08-09	Total Yr_09-10	Total Yr_10-11	Total Yr_11-12	Total Yr_12-13
Prior Yr Applicants	6,500	0	0	0	0	0	0
Beginning Enrollment	4,000	4,000	4,000	4,250	4,250	4,250	4,250
% Growth_General	0.00%	1.25%	1.85%	1.52%	(0.90%)	0.00%	0.90%
% Growth_College	0.000%	0.481%	1.435%	3.019%	(0.916)%	1.664%	0.182%
Attrition Rate	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%
Transfer Rate_Internal	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Projected Applicants	**6,500**	**6,613**	**6,830**	**7,140**	**7,011**	**7,128**	**7,205**
Apply to Admit Rate	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%
Adjmt Applicants	0	0	35	0	0	0	0
Qualified for Admission	**4,225**	**4,298**	**4,462**	**4,641**	**4,557**	**4,633**	**4,683**
Projected Enrollment	**4,000**	**4,000**	**4,250**	**4,250**	**4,250**	**4,250**	**4,250**
Capacity	4,000	4,000	4,250	4,250	4,250	4,250	4,250
% of Capacity	**105.62%**	**107.46%**	**104.99%**	**109.20%**	**107.23%**	**109.02%**	**110.19%**

Fees

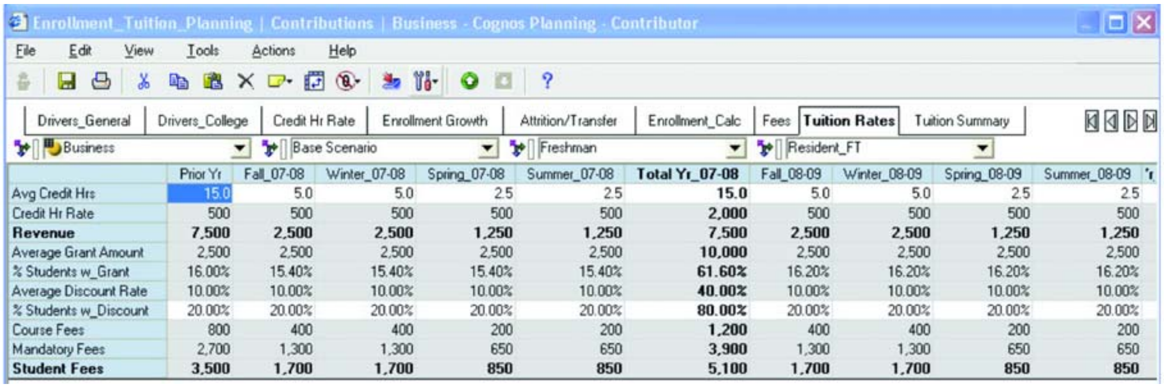
As with the credit hour tab, you may link the data in this tab from an existing application (such as the university general ledger) or input it manually. This tab lets you input different fees by student class, type, and resident status. It contains typical fee items that can easily be modified or expanded to suit your needs. This data is also linked to the tuition summary tab to calculate total revenues.



	Prior Yr	Fall_07-08	Winter_07-08	Spring_07-08	Summer_07-08	**Total Yr_07-08**	Fall_08-09	Winter_08-09
Lab Fees	0	0	0	0	0	**0**	0	
Miscellaneous Fees	800	400	400	200	200	**1,200**	400	40
Course Fees	**800**	**400**	**400**	**200**	**200**	**1,200**	**400**	**40**
Student Union Fees	200	100	100	50	50	**300**	100	10
Health Care Fees	2,000	700	700	350	350	**2,100**	700	70
University Fees	500	500	500	250	250	**1,500**	500	50
Mandatory Fees	**2,700**	**1,300**	**1,300**	**650**	**650**	**3,900**	**1,300**	**1,30**
Total Fees	**3,500**	**1,700**	**1,700**	**850**	**850**	**5,100**	**1,700**	**1,70**

Tuition rates

This tab contains data linked from the credit hour rates, college drivers, and fees tabs (grey areas). Data must be entered for average credit hours per semester and percentage of students receiving a discount. Because this data varies greatly by student type, you must enter the data for full- and part-time residents and each student class. This tab also contains a summary of course and mandatory fees.

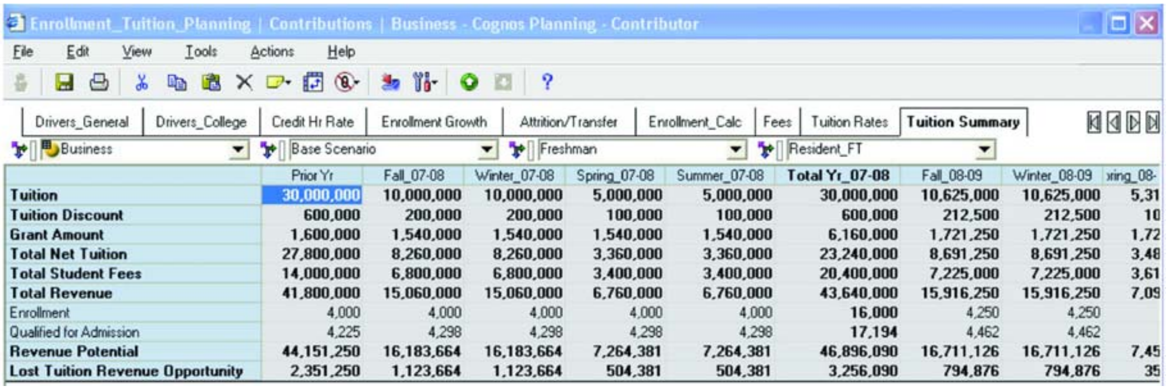


	Prior Yr	Fall_07-08	Winter_07-08	Spring_07-08	Summer_07-08	Total Yr_07-08	Fall_08-09	Winter_08-09	Spring_08-09	Summer_08-09
Avg Credit Hrs	15.0	5.0	5.0	2.5	2.5	**15.0**	5.0	5.0	2.5	2.5
Credit Hr Rate	500	500	500	500	500	**2,000**	500	500	500	500
Revenue	**7,500**	**2,500**	**2,500**	**1,250**	**1,250**	**7,500**	**2,500**	**2,500**	**1,250**	**1,250**
Average Grant Amount	2,500	2,500	2,500	2,500	2,500	**10,000**	2,500	2,500	2,500	2,500
% Students w_Grant	16.00%	15.40%	15.40%	15.40%	15.40%	**61.60%**	16.20%	16.20%	16.20%	16.20%
Average Discount Rate	10.00%	10.00%	10.00%	10.00%	10.00%	**40.00%**	10.00%	10.00%	10.00%	10.00%
% Students w_Discount	20.00%	20.00%	20.00%	20.00%	20.00%	**80.00%**	20.00%	20.00%	20.00%	20.00%
Course Fees	800	400	400	200	200	**1,200**	400	400	200	200
Mandatory Fees	2,700	1,300	1,300	650	650	**3,900**	1,300	1,300	650	650
Student Fees	**3,500**	**1,700**	**1,700**	**850**	**850**	**5,100**	**1,700**	**1,700**	**850**	**850**

Tuition summary

The final tab in the application is a summary view of enrollments and revenues. Much of the data in this tab is used to generate reports, scorecards, and analysis for the institution. Selecting totals for full-time resident freshman class gives us an immediate view into the total tuition revenue from that group.

Lost tuition revenue opportunity is the calculated revenue lost in not being able to support qualified admissions. The university may use this number in determining which faculties or colleges warrant consideration for growth. If this is a negative number the college may wish to explore further why they are unable to fill to capacity and if funding needs to be directed elsewhere.



	Prior Yr	Fall_07-08	Winter_07-08	Spring_07-08	Summer_07-08	Total Yr_07-08	Fall_08-09	Winter_08-09	ring_08-
Tuition	30,000,000	10,000,000	10,000,000	5,000,000	5,000,000	30,000,000	10,625,000	10,625,000	5,31
Tuition Discount	600,000	200,000	200,000	100,000	100,000	600,000	212,500	212,500	10
Grant Amount	1,600,000	1,540,000	1,540,000	1,540,000	1,540,000	6,160,000	1,721,250	1,721,250	1,72
Total Net Tuition	27,800,000	8,260,000	8,260,000	3,360,000	3,360,000	23,240,000	8,691,250	8,691,250	3,48
Total Student Fees	14,000,000	6,800,000	6,800,000	3,400,000	3,400,000	20,400,000	7,225,000	7,225,000	3,61
Total Revenue	41,800,000	15,060,000	15,060,000	6,760,000	6,760,000	43,640,000	15,916,250	15,916,250	7,09
Enrollment	4,000	4,000	4,000	4,000	4,000	**16,000**	4,250	4,250	
Qualified for Admission	4,225	4,298	4,298	4,298	4,298	**17,194**	4,462	4,462	
Revenue Potential	44,151,250	16,183,664	16,183,664	7,264,381	7,264,381	46,896,090	16,711,126	16,711,126	7,45
Lost Tuition Revenue Opportunity	2,351,250	1,123,664	1,123,664	504,381	504,381	3,256,090	794,876	794,876	35

CONCLUSION

The *IBM Cognos Enrollment and Tuition Planning Performance Blueprint* is built on the collected wisdom of education leaders and performance management experts. It helps you quickly align your goals, plans, people, and activities so you can drive faster ROI and reduce total cost of ownership of your performance management system.

ABOUT COGNOS, AN IBM COMPANY

Cognos, an IBM company, is the world leader in business intelligence and performance management solutions. It provides world-class enterprise planning and BI software and services to help companies plan, understand and manage financial and operational performance. Cognos was acquired by IBM in February 2008. For more information, visit **http://www.cognos.com**.

The Cognos solution empowers over 1,000 institutions of higher education. Over 530 K-12 school districts and over 20,000 schools rely on Cognos to deliver optimal education programs and improve student performance for over 12 million American children and young adults. Thirteen state departments of education and the U.S. Federal Department of Education trust their performance to Cognos.

FOR MORE INFORMATION

For more information on Cognos solutions for education, please visit www.cognos.com/education

REQUEST A CALL

To request a call or ask a question, go to www.cognos.com/contactme A Cognos representative will respond to your enquiry within two business days.

ABOUT THE COGNOS INNOVATION CENTER FOR PERFORMANCE MANAGEMENT

The Cognos Innovation Center was established in North America and Europe to advance the understanding of proven planning and performance management techniques, technologies, and practices. The Innovation Center is dedicated to transforming routine performance management practices into "next practices" that help cut costs, streamline processes, boost productivity, enable rapid response to opportunity, and increase management visibility.

Staffed globally by experts in planning, technology, and performance and strategy management, the Innovation Center partners with more than 600 Cognos customers, academics, industry leaders, and others seeking to accelerate adoption, reduce risk, and maximize the impact of technology-enabled performance management practices.

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