How to Leverage Course Planning Optimization (CPO) Analyses for Smarter Decision-Making

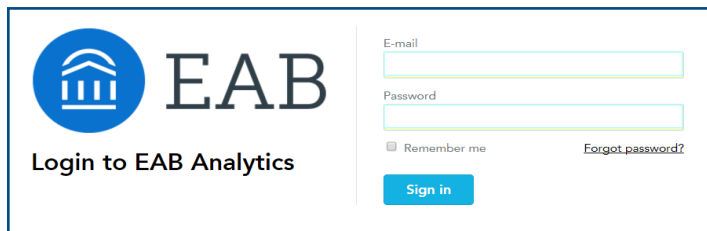## The Course Planning Optimization (CPO) Module in the APS Platform

The Course Planning Optimization (CPO) module consists of historical analyses and course forecasts to help you make smarter, data-informed decisions about course and section offerings for the upcoming term. CPO consists of three tabs, which house various reports and metrics. The data are intended to inform, not determine, your decisions. Context is important; always pair the data with your own knowledge to decide how to best serve your students and faculty, as well as maximize your instructional resource use.

Please note: The screenshots in this guide are from a demonstration site, not your institution's site.

Access the CPO Module

1 Visit https://reports.eabanalytics.com/ to open the APS platform login page

Note: If your institution has enabled Single Sign On (SSO), your institution's APS platform login hyperlink will be unique and require specific institutional credentials

2 Enter your institutional email address and password. If this is your first time accessing your account or if you have forgotten your password, please use the "Forgot password" link to create a new password.

3 Click Sign In

4 Once logged in, click on the "^" next to the dashboard name located at the top left of the screen. This will open the dashboard drop-down menu. If this is your first time logging in, the first screen you will see is the APS Home Page.

Depending on your platform permissions, you will see various dashboard names in the drop-down menu. Click on Course Planning Optimization.
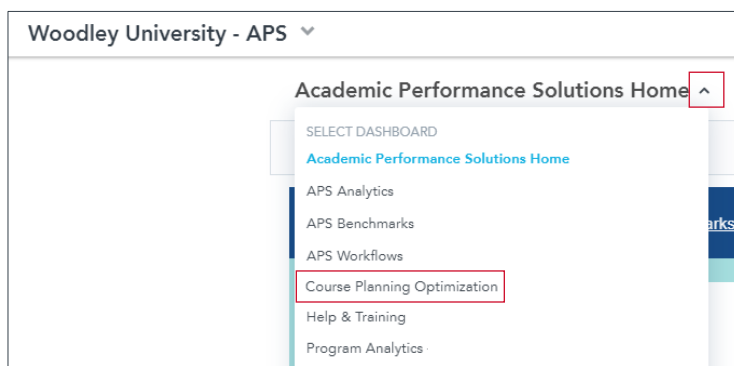
Source: Academic Performance Solutions.

How to: Plan a Course That Is Either Growing or Declining in Demand

Use the Course Planning and Course Analysis tabs to proactively identify and make course adjustments based on historical analyses, the CPO forecast model, and knowledge of your college/department. We recommend you leverage these tabs prior to the deadline for submitting the initial course schedule for a term, which is typically 6-12 months before the term starts.

If you have questions about the CPO forecast model, please see the Forecast Model FAQ document and explainer videos on the Help Resources tab.

▶ **Get Started: Set Your Filters**

Located at the top of each tab, filters allow you to achieve more granular analyses.

Required Filters

Past Term, Future Term, Campus, College, Department

Optional Filters

Course Level, Course Prefix

▶ **Tip: View Metric Definitions**

Throughout the CPO module, you can view metric definitions.

• Hover over any key performance indicator or report, such as a table or chart, until "…" appears

• Click on the "…" to view a report description and metric definition(s)

• In the same menu that appears, you can download the data in a document such as an Excel

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Course Planning Tab

1 **Perform a Quick Check**

Located just below the filters, use the **Low Enrollment Courses** key performance indicator (KPI) next to the How Is Course Demand Changing? header, as well as the four KPIS below the header. Obtain a high-level overview of how course demand is changing in the selected college or department(s).

How is Course Demand Changing?		Low Enrollment Courses
		Courses with fewer than ten students enrolled across all sections **9**

Courses with Low or Decreasing Demand		Courses with High or Increasing Demand	
Historical low fill rate courses	**Forecasted course decreases**	**Historical high fill rate courses**	**Forecasted course increases**
Courses with fill rates of 80% or less	Courses forecasted to require fewer sections	Courses with fill rates of 90% or more	Courses forecasted to require more sections
4 Courses	5 Courses	4 Courses	5 Courses

2 Use the Dynamic Filters to Customize Your Analysis

Scroll down to the Which Courses May Need Adjustment? header. Use the **Historical Course Fill Rates filter** to select courses that were low or high fill in the past term. Select *Low fill rate courses (<80%)*.

Use the **Forecasted Course Opportunities filter** to view all courses or courses that are forecasted to require a decrease or increase in number of section offerings. Select *Courses decrease*. Once filters are applied, you'll see the Courses That May Need Adjustment KPI change to reflect the number of courses that meet your filter selections.

Which Courses May Need Adjustment?

HISTORICAL COURSE FILL RATES		FORECASTED COURSE OPPORTUNITIES		Courses That May Need Adjustment
Low fill rate courses (<80%)	and	Courses decrease	=	4

3 View Courses That Are Forecasted to Require Fewer Section Offerings

Use the table to view the course's number of sections, enrollment, capacity, fill rate, own majors' enrollment, attempted student credit hours (SCH), repeats, completion rate, and DFW rate in the selected past term, as well as the course forecast for the future term. With the Forecasted Course Opportunities – *Courses decrease* filter applied, view courses that are forecasted to require fewer sections in the future term. Identify one or more courses that you wish to investigate further to determine how best to accommodate student demand.

	Enrollment Fall 2020				Student Progress Fall 2020				Forecast Spring 2021
Course Codes	# of Sections	Enrollment	Capacity	Fill Rate [%]	Own Majors [%]	Attempted SCH	Repeats [%]	Completion Rate [%]	DFW [%]	Course Forecast
ENT101	4	104	160	65%	51%	312	7%	93%	7%	**Decrease**
ENT119	2	24	40	61%	66%	72	4%	96%	4%	**Decrease**
ENT111	2	40	60	66%	92%	120	41%	50%	41%	**Decrease**
ENT204	2	43	60	72%	90%	129	9%	91%	9%	**Decrease**

4 View Courses That Are Forecasted to Require Additional Section Offerings

Now use the Historical Course Fill Rates filter to select *High fill rate courses (>=90%)* and the Forecasted Course Opportunities filter to select *Courses increase*. With the filters applied, view courses that are forecasted to require additional sections in the future term. Identify one or more courses that you wish to investigate further to determine how best to accommodate student demand.

	Enrollment Fall 2020				Student Progress Fall 2020				Forecast Spring 2021
Course Codes	# of Sections	Enrollment	Capacity	Fill Rate [%]	Own Majors [%]	Attempted SCH	Repeats [%]	Completion Rate [%]	DFW [%]	Course Forecast
ENT120 / CS134	2	108	100	108%	47%	324	25%	75%	25%	**Increase**
ENT203	3	92	90	102%	84%	276	0%	100%	0%	**Increase**
ENT130	1	21	20	104%	49%	63	5%	95%	5%	**Increase**
ENT208	1	29	30	96%	84%	78	9%	68%	9%	**Increase**
ENT109	3	88	90	98%	77%	264	38%	71%	38%	**Increase**

The Course Code column contains a drill-in report. Click on a course code to view section-level data.

eab.com

5   Perform Analyses Using the Remaining Filter Selections

Using the Historical Course Fill Rates and the Forecasted Course Opportunities filters, analyze other types of courses such as low fill rate courses that are forecasted to require additional section offerings. Identify one or more courses you wish to investigate further.

Which Courses May Need Adjustment?

HISTORICAL COURSE FILL RATES		FORECASTED COURSE OPPORTUNITIES		Courses That May Need Adjustment
Low fill rate courses (<80%) ∨	and	Courses increase ∨		1

Please note some course forecasts that result from the forecast model may differ from what your institution expects, because the model does not take into account all factors that your institution may consider in course planning. For example, having a conflicting course in the same timeslot as another course may be a definitive factor to make adjustments, but the model does not ingest course times as an input.

6   Download the Data

For all analyses with filter selections applied, click Download Excel to download the data as an Excel spreadsheet to perform additional analyses on your own.

		Enrollment Fall 2020				Student Progress Fall 2020				Forecast Spring 2021
Course Codes	# of Sections	Enrollment ⬧	Capacity	Fill Rate [%]	Own Majors [%]	Attempted SCI	Repeats [%]	Completion Rate [%	DFW [%]	Course Forecast
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→ Download Excel

Course Analysis Tab

7   Navigate to the Course Analysis Tab

Click on the Course Analysis tab.

Course Planning Optimization ∨

Course Planning   Course Analysis   Registration Status   Help Resources

2 **Make Filter Selections Based on Your Findings from the Previous Tab**

Your filter selections from the Course Planning tab will carry over to the Course Analysis tab. On this tab, use the Course Code filter to select the course(s) you identified on the Course Planning tab to require further investigation to decide how best to accommodate student demand.

1. What term do you want to see course analysis for?

Use the Past Term filter to select the term you'd like to review.
For example, if you're planning for an upcoming Fall term, you might select the most recent past Fall term to see how courses performed

PAST TERM
Fall 2020

2. Would you like to filter out any institution attributes?

CAMPUS	COLLEGE	DEPARTMENT
All	All	Business Ad...

3. Would you like to filter out any course attributes?

COURSE LEVEL	COURSE PREFIX	COURSE CODE
100, 200	All	ENT 120

4. Would you like to filter out any section attributes?
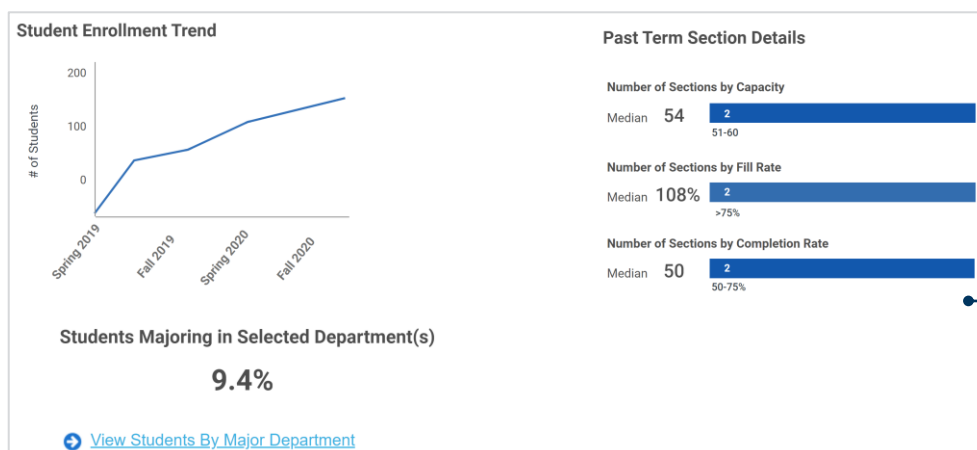
INSTRUCTIONAL MODE	SECTION TYPE
All	All

3 **Perform a Quick Check**

Located just below the filters, use the **Total # Sections**, **Section Enrollment**, and **Section Capacity** key performance indicators (KPIs) next to the How Have Courses Performed? header to obtain a high-level overview of how registration is progressing in the selected college or department(s)

How Have Courses Performed?

Total # Sections	Section Enrollment	Section Capacity
2	108	100

Just below the How Have Courses Performed? header and KPIs, use the **Student Enrollment Trend**, **Students Majoring in Selected Department(s)**, **View Students by Major Department**, and **Past Term Section Details** reports to obtain a more in-depth overview of how the course(s) have performed regarding enrollment and course capacity.

Student Enrollment Trend

Past Term Section Details

Number of Sections by Capacity
Median 54   2   51-60

Number of Sections by Fill Rate
Median 108%   2   >75%

Number of Sections by Completion Rate
Median 50   2   50-75%

Students Majoring in Selected Department(s)

9.4%

→ View Students By Major Department

Section Enrollment Trend report

• Hover over each point in the chart to view # of Students and Academic Year/Term

Students Majoring in Selected Department(s) report

• Click on the hyperlink below the KPI to view students by major department

Number of Sections by Capacity, Number of Sections by Fill Rate, and Number of Sections by Completion Rate reports

• Hover over each bar to view in each which range of values the number of sections represent

Source: Academic Performance Solutions.

eab.com

4   View How Sections of the Selected Course(s) Performed in the Past Term

Scroll down to the How Have Sections Performed? header. Use the table to view how sections of the same course(s) compared regarding enrollment, capacity, fill rate, and student progress. Identify how many sections will need to be added or removed to align with student demand.

How Have Sections Performed?

Section Information							Past Term Enrollment		Past Term Student Progress			
Course Code	CRN (Cou	Day/Time	Section Type	Enrollm⬍	Capacity	Fill Rate [%]	Own Majors [%]	Attempted SCH	Repeats [%]	Completion Rate [%]	DFW [%]
1124		Mon, Wed, Fri 1:00 pm	Lecture	54	50	108%	49%	162	32%	73%	60%
1128		Tue, Thu, 2:15 pm	Lecture	57	50	114%	49%	171	17%	69%	50%

> In this example, consistent with findings from the previous tab – sections of ENT 120 have fill rates greater than 90%.

5   View Instructors Who Taught the Course in the Past Who May Be Able to Teach the Course Again

Scroll down to the Who Taught the Course(s)? header. The table shows information on instructors who taught the selected course(s) in the past. If you're looking at courses where additional sections are forecasted to be needed, use the table to identify instructors who have taught the course previously and have capacity to take on an additional sections. If you're looking at courses where fewer sections are forecasted to be needed, identify instructors who don't need to teach this course to achieve a standard workload or can be reassigned.

Time Period	Instructor Information				Course Information		
Academic Year an	Instructor Name	Instructor Type	Instructor Rank	Instructor Total SCH	Course Enrollment	# of Sections	Fill Rate [%]
Fall 2020	Seung Han	Tenured	Professor	504	56	1	112%
Spring 2018	Michael Megdad	Adjunct	Adjunct Faculty	360	30	1	94%
Fall 2020	Olga Nemesh	Adjunct	Adjunct Faculty	624	52	1	104%

> The Instructor Total SCH column contains a drill-in report. Click on the value to view the total SCH produced by the instructor for each section taught by the instructor.

6   Download the Data

For all analyses with filter selections applied, click Download Excel to download the data as an Excel spreadsheet to perform additional analyses on your own.

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➔ **Download Excel**

Document Your Recommendations on the Next Page! ▶

Source: Academic Performance Solutions.

6 **Document Your Findings and Recommendations**

Acting on the data is just as important as analyzing the data. Record your observations and recommendations in the table and discuss with relevant colleagues.

Question	Your Recommendations	Important Context Specific to Your Institution to Consider
In which courses are you considering changing the number of section offerings to accommodate student demand?	•	
How many sections are you considering adding to or removing from the course(s)?	•	
If you're looking at courses where additional sections are needed, are there any instructors who have previously taught the course and have capacity to take on an additional section?	•	
If you're looking at courses where fewer sections are needed, are there any instructors who don't need to teach this course to make load or can be reassigned?	•	