

Ad Astra User Guide - Align

Purpose of this document: To provide a guide to use the Align app in Ad Astra to plan an upcoming class schedule. Align presents an analysis of the class schedule for a given term, using historical enrollments and student academic history and degree roadmaps, to provide a forecast of the number of sections and seats needed for a given course.

Technical Note: Chrome is the preferred browser. Not all features are available in Firefox or Safari.

Timeline of Ad Astra Analyses and Building the Schedule

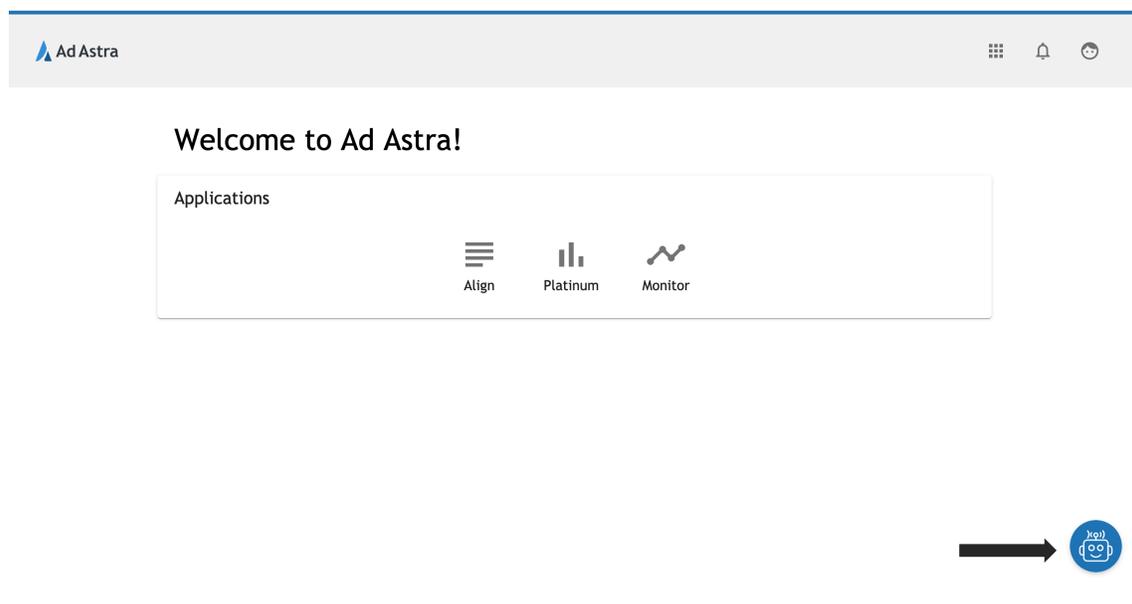
Planning for....	Historical analysis available in Align	Dept access to build schedule	Predict analysis available in Align	Class Schedule Live	Track Registration using Monitor
Fall	October	Jan - Mar	February	April	late April, early May
Spring	March	Apr - Oct	September	November	late Nov, early Dec

Introduction. Ad Astra’s platform is organized around several different applications.

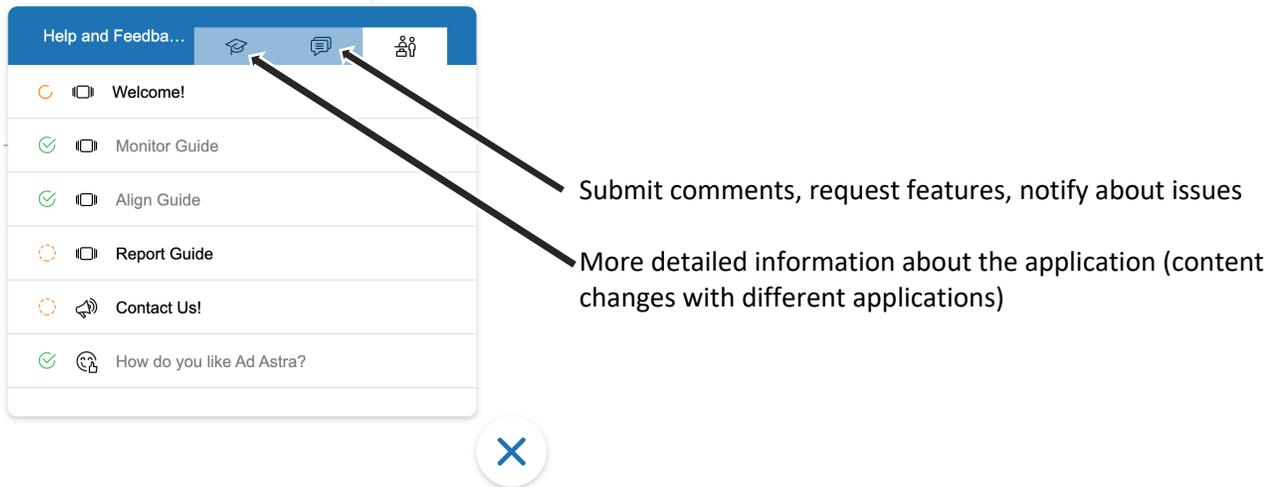
Align – Provides a forecast of expected demand in classes based on historical enrollment trends and current student progress towards degree.

Platinum – Takes you to the original platform, in which you can find past Platinum analytics results. Replaced by Align going forward. **Please contact Jane or Claude about access to this site and the user guide.**

Monitor – Information about enrollments in courses during the registration period. Monitor does not track live registration. It reports enrollment once in a 24 hour period. The date and time of the data import will be listed on the display. **The Monitor User Guide can be found in the Quick Links section on DUEAP Lab site (<https://ueap.sfsu.edu/lab>).**



The blue robot icon is a help center. Within this center, there is a tab with welcome guides, a tab with information about the applications, and a tab in which you can submit comments, problems, or requests for features to the Ad Astra development team.



Using Align

Align imports the schedule from CS and provides an analysis based on historical enrollment trends to forecast the upcoming demand for each course in the schedule. **Predict** is another analysis algorithm that provides a complementary analysis of demand for a course based on degree requirements and where a student is on their path to the degree. Data is imported for Predict about 3 weeks into the current term to capture as much in-progress coursework as possible to inform demand for the next semester. The Predict analysis then updates daily, reflecting changes to student schedules.

Please see **Appendix 1** for definitions of the terms used for Align.

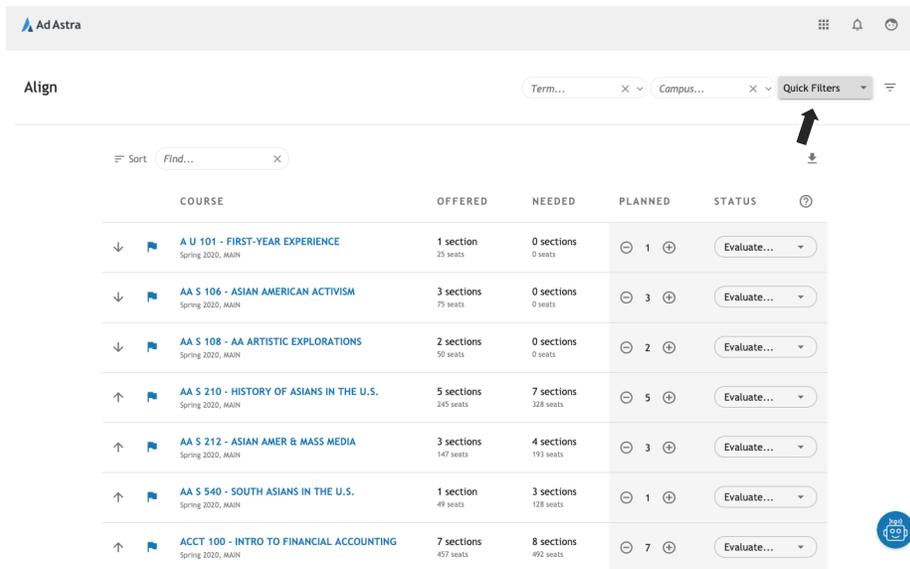
1. **Login.** Go to: <https://app.adastra.live/login>

First time logging in: To log in, click the link above and select “Forgot Password”. Enter your email address and hit “reset code.” You will receive an email from no-reply@verificationemail.com - **make sure to check your junk folder.** You will receive a temporary reset code that will allow you to reset your password. Ensure you are ready to reset your password at this time as the temporary reset code won’t last long.

Once you are logged in successfully with your new password, you will be able to navigate to Monitor or Align. Please remember the blue robot icon in the corner is there to help guide your navigation.

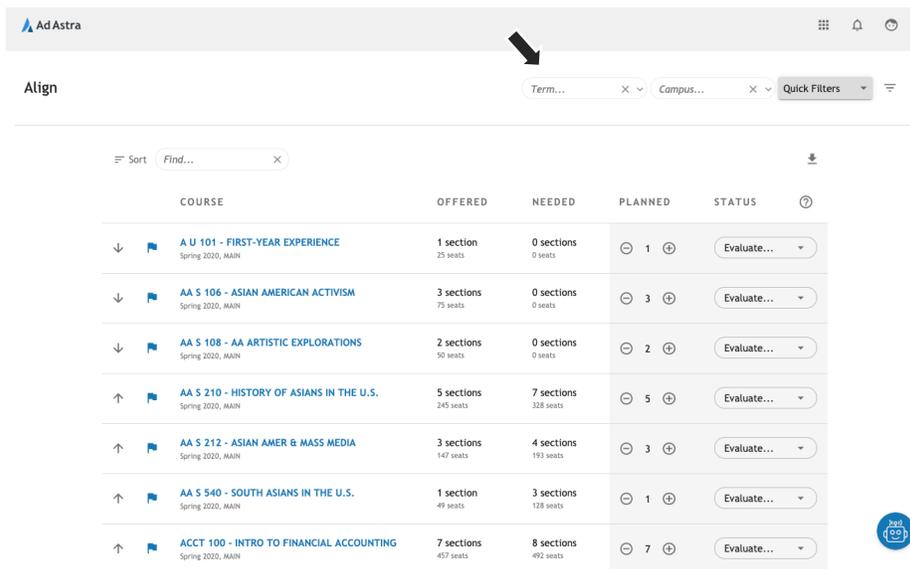
2. **Select Align on the main screen.**

3. **Select the filter first (before selecting term).** Filters can be used to select courses that belong to a particular program, department, school or college. A filter for your department, school, or college (for Deans, Associate Deans, and college schedulers) has been created for you. Click on the *Quick Filter* button and select the filter to see only the courses that are associated with your department, school, or college. To remove a filter, click on the X by the filter name (this does not delete the filter).



Please see **Appendix 2** for information about how to create or modify a filter.

4. Select the term. Type in the term and year of interest in the *Term* window. Click on the term in the menu that pops up. *A number of future terms are listed in the menu under Select a term. It is easier to simply start typing Fall, Spring, or Summer and the full year than to scroll through future terms.*



You should now see a list of courses from your school or department or college for the term of interest.

NOTE: Ad Astra is working on the display of information for cross-listed courses. If a cross-listed course is not listed under your subject, look for the other subject(s) by removing the filter and typing in the subject and course number in the *Find* window. At this time, the total enrollment is displayed for the entire course (all cross-lists) under one of the subjects only. This is an issue that Ad Astra is actively working on.

5. Sort, Find, and Export. Sort provides a number of fields which can be used to sort the data. Only one Sort field can be selected at a time. Selecting the Sort field multiple times changes the order of the sort.

COURSE	OFFERED	NEEDED	PLANNED	STATUS
EXCO 301 - TOPICS IN EXPERIMENTAL COLLEGE Spring 2021, MAIN	40 sections 967 seats	14 sections 321 seats	40	Evaluate...
A U 241 - HEALTH & SOCIAL MOVEMENTS IN US Spring 2021, MAIN	22 sections 440 seats	0 sections 0 seats	22	Evaluate...
A U 120 - EDUC JSTC HLTH EQTY & ACAD SUC Spring 2021, MAIN	20 sections 400 seats	0 sections 0 seats	20	Evaluate...
EXCO 401 - ORGANIZING EXCO COURSES Spring 2021, MAIN	7 sections 174 seats	2 sections 44 seats	7	Evaluate...
A U 303 - BAY AREA HISTORY & SOCIETY Spring 2021, MAIN	6 sections 210 seats	1 section 10 seats	6	Evaluate...
A U 200 - PATHWAYS SEMINAR Spring 2021, MAIN	3 sections 70 seats	2 sections 42 seats	3	Evaluate...
A U 116 - ALGEBRA & STATS FOR SOCIAL JUS Spring 2021, MAIN	2 sections 80 seats	2 sections 66 seats	2	Evaluate...

Sort by top candidate to group all top candidates together (marked by the filled-in flags). Sort by candidate type to group all addition, no action and reduction candidates together (see Appendix 1 for definitions). You can also click on the column headings to sort by the information in each column.

The **Find** window can be used to find specific course subjects, course titles, words in course titles, numbers, etc. It is strictly a text search, so if ENG is entered, it will return any courses with an ENG subject, ENGR subject, and any courses with the words English, England, or engineering, penguin, strength, etc in their titles. **If a subject has a space in it, like A AS, use quotes around the subject in the query: "AA S"**

You can also export the list of course to an excel file with information about sections, seats and enrollment ratios using the export arrow.

6. Understanding the Information.

Arrows and checkmarks indicate type of candidate.

- ↑ : addition candidate
- ↓ : reduction candidate
- ✓ : No action candidate

Flag indicates priority. A filled flag is a top candidate.

Number of sections and seats offered in the schedule for the term of interest.

Number of sections and seats needed based on analysis.

Planned can be used to track decisions or ignored. Status can be used to track review process or ignored.

COURSE	OFFERED	NEEDED	PLANNED	STATUS
EXCO 301 - TOPICS IN EXPERIMENTAL COLLEGE Spring 2021, MAIN	40 sections 967 seats	14 sections 321 seats	40	Evaluate...
A U 241 - HEALTH & SOCIAL MOVEMENTS IN US Spring 2021, MAIN	22 sections 440 seats	0 sections 0 seats	22	Evaluate...
A U 120 - EDUC JSTC HLTH EQTY & ACAD SUC Spring 2021, MAIN	20 sections 400 seats	0 sections 0 seats	20	Evaluate...
EXCO 401 - ORGANIZING EXCO COURSES Spring 2021, MAIN	7 sections 174 seats	2 sections 44 seats	7	Evaluate...
A U 303 - BAY AREA HISTORY & SOCIETY Spring 2021, MAIN	6 sections 210 seats	1 section 10 seats	6	Evaluate...
A U 200 - PATHWAYS SEMINAR Spring 2021, MAIN	3 sections 70 seats	2 sections 42 seats	3	Evaluate...
A U 116 - ALGEBRA & STATS FOR SOCIAL JUS Spring 2021, MAIN	2 sections 80 seats	2 sections 66 seats	2	Evaluate...

In the screen shot above, EXCO 301 is identified as a top (filled flag) reduction (↓) candidate. 40 sections and 967 seats are in the Spring 2021 schedule (rolled forward from Spring 2020) – Ad Astra suggests offering 14 sections and 321 seats in Spring 2021.

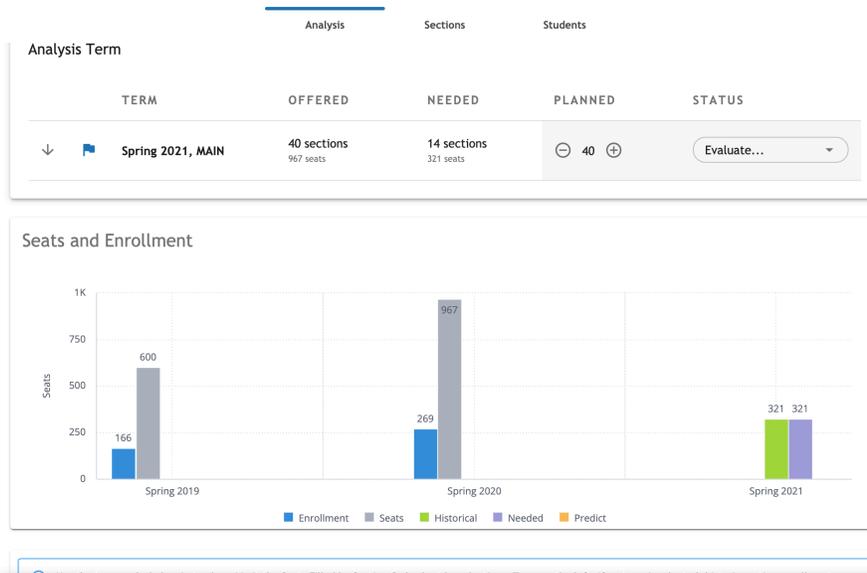
The Planned column can be used as a record of any decisions to change the number of sections in the schedule. The Status column can be used to track review and approval of the schedule if a campus has a formal review process (SF State does not).

a. Details of Historical Trends and Student-informed Demand:

Click on the blue course title to see analysis results and historical trends in enrollment for the course.

Scroll down to see all of the following information for a course.

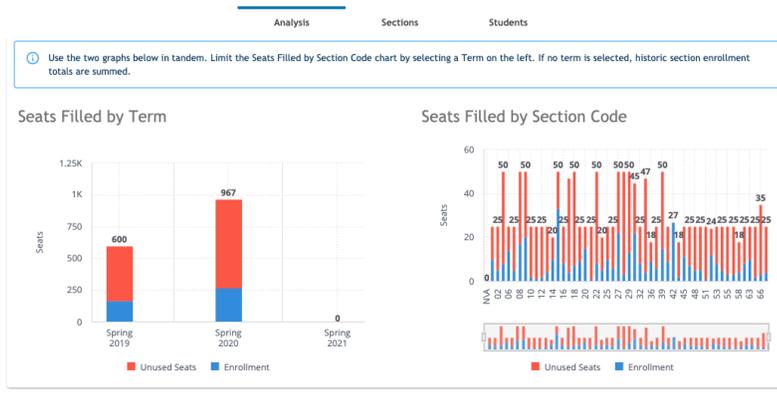
[Align](#) > EXCO 301 / TOPICS IN EXPERIMENTAL COLLEGE ⓘ



b. Seats and Enrollment: A comparison of total seats offered to total seats enrolled for up to the past 5 like terms (if available). When student data is imported for the Predict analysis, the number of seats predicted by Predict will be displayed in the rightmost window for the term of interest (at the time of the creation of this document, predict has not yet run). **The seats needed value (purple) is a weighted average of the historical analysis (green) and of the predict analysis (orange).**

Keep scrolling for a breakdown of enrollment history by sections.

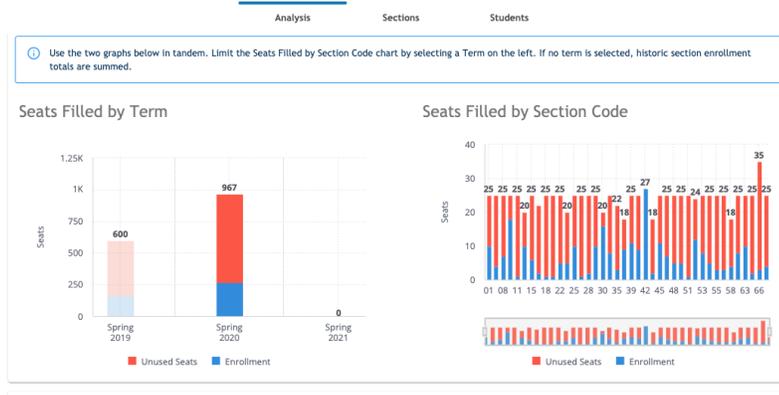
[Align](#) > EXCO 301 / TOPICS IN EXPERIMENTAL COLLEGE ⓘ



The **Seats Filled by Term** provides a summary of total enrolled and unused seats for each past term. Click on a term in the Seats Filled by Term window to see the enrolled and unused seats for each section of the course offered in that term in the **Seats Filled by Section Code** window.

Visualization with Spring 2020 term selected:

[Align](#) > EXCO 301 / TOPICS IN EXPERIMENTAL COLLEGE ⓘ



This allows you to see if sections tend to enroll evenly or not, which could be impacted by the schedules of different sections or by when sections were added to the schedule.

Keep scrolling for summaries of historical enrollments and past recommendations.

[Align](#) > EXCO 301 / TOPICS IN EXPERIMENTAL COLLEGE ⓘ

Analysis				
Sections				
Students				
Historical Terms				
TERM	OFFERED	ENROLLMENT	RATIO	SOURCE
Spring 2020, MAIN	40 sections 967 seats	269 students	28 %	EXCO 301 (269)
Spring 2019, MAIN	24 sections 600 seats	166 students	28 %	EXCO 301 (166)
Recommendations				
TERM	HISTORICAL	PREDICT	NEEDED	
Spring 2020, MAIN	7 sections 166 seats	N/A	7 sections 166 seats	
Fall 2020, MAIN	5 sections 103 seats	N/A	5 sections 103 seats	
Spring 2021, MAIN	14 sections 321 seats	N/A	14 sections 321 seats	

c. Historical Terms summarizes number of sections and seats offered, the total seats enrolled and the enrollment ratio for the course in each past like term (up to 5 semesters). This provides an indication of the trend in course demand term over term.

d. Recommendations summarizes Ad Astra recommendations for the past 3 terms (Fall and Spring) compared to what was actually offered. Numbers in the predict column will populated once student data is imported into the system for Spring 2021 forward.

Taken together, this data may help you understand the origin of a recommendation to add or reduce sections or seats. The trends over time may help establish how to prioritize the response to the recommendation.

e. Sections and Students Tab

At the top of the window, there are two other tabs. Click on the Sections Tab for details of the class schedule for the upcoming term. Because we roll the previous like term schedule forward for the next term, the previous term schedule (days, times, enrollment caps, instructors) will be displayed until the department modifies that information for the new term.

Align > EXCO 301 / TOPICS IN EXPERIMENTAL COLLEGE ⓘ

TERM	OFFERED	NEEDED	PLANNED	STATUS
↓ Spring 2021, MAIN	40 sections 967 seats	14 sections 321 seats	⊖ 40 ⊕	Evaluate... ▾

The Students tab will display actual and simulated students who need the course in the upcoming term based on the analysis of student data and the degree pathway/roadmap. This information will be available once student data is imported and Predict is run.

7. What to pay attention to for planning purposes

Align and Predict provide an analysis of course demand on a course by course basis. The relationship of courses to each other in a degree or for University requirements is not part of the analysis, nor is information about who teaches a course, how easy it is to find instructors for a particular course, or space or equipment restrictions on course offerings. The information can help point a department in particular directions, but it must be acknowledged that there may be other issues at work that determine if moving in that direction is feasible in either the short or long term. Use this information to make changes where you can to help students get the courses they need and to identify course demand that might need to be addressed in a more incremental fashion.

- Look for solid flags. These indicate the top addition or reduction courses, courses for which the analysis has multiple data points and trends over time indicating that more or fewer sections/seats are needed. Adding seats or sections of addition candidates has a high probability of positively impacting students, while reducing seats or sections of reduction candidates is likely to have minimal negative impact on students.
- Look for the presence of both reduction and addition candidates for the same subject. If there are courses in both the reduction and addition buckets, consider shifting a section from the reduction bucket to a section in the addition bucket to meet student demand for the addition candidate. This may be especially critical for addition candidates with persistent high demand over time and/or for courses with a lot of seats needed based on Predict.
- Look for differences in enrollment caps for sections of the same course. Consider increasing a smaller enrollment section to a cap closer to the enrollment cap of a larger enrollment section. This may be a way to add more seats to a course with unmet demand without having to add another section.

- Look at clusters of courses that meet the same requirement but that give students choice, such as a breadth area or an elective area. Look at the aggregate supply and demand of seats for courses in the same curricular bucket. Is demand for courses in the same bucket getting spread too thin over too many courses or is there unmet demand for the courses that meet the same requirement?
 - Enrollment history can provide insight into courses that might be safe to schedule in a later term or to add to the current schedule. Courses that enroll fewer students could perhaps be scheduled in a later term to allow demand to build. Courses that have been high demand for several terms could be good candidates for an additional section in the current term because the likelihood of those seats being enrolled is high.

What are the limitations of the data?

Data will not exist for courses that have not been taught before, or courses for which the subject or course number was changed recently. Look for the course under the old subject or course number for past trends.

Cross-listed courses are not being displayed under all subjects in the cross-list. If a cross-listed course is not seen under one subject, look for the other subject.

Unanticipated changes in enrollment at the University or in different majors may not be accounted for.

A change in the role of a course in the curriculum may change current demand compared to historical demand.

Courses that are one of a large list of possible courses for a requirement will have poorly defined demand in Predict, but historical trends can provide insight into popular courses in these large lists.

Appendix 1: Terms and Definitions for Align

Enrollment ratio: seats enrolled/enrollment cap

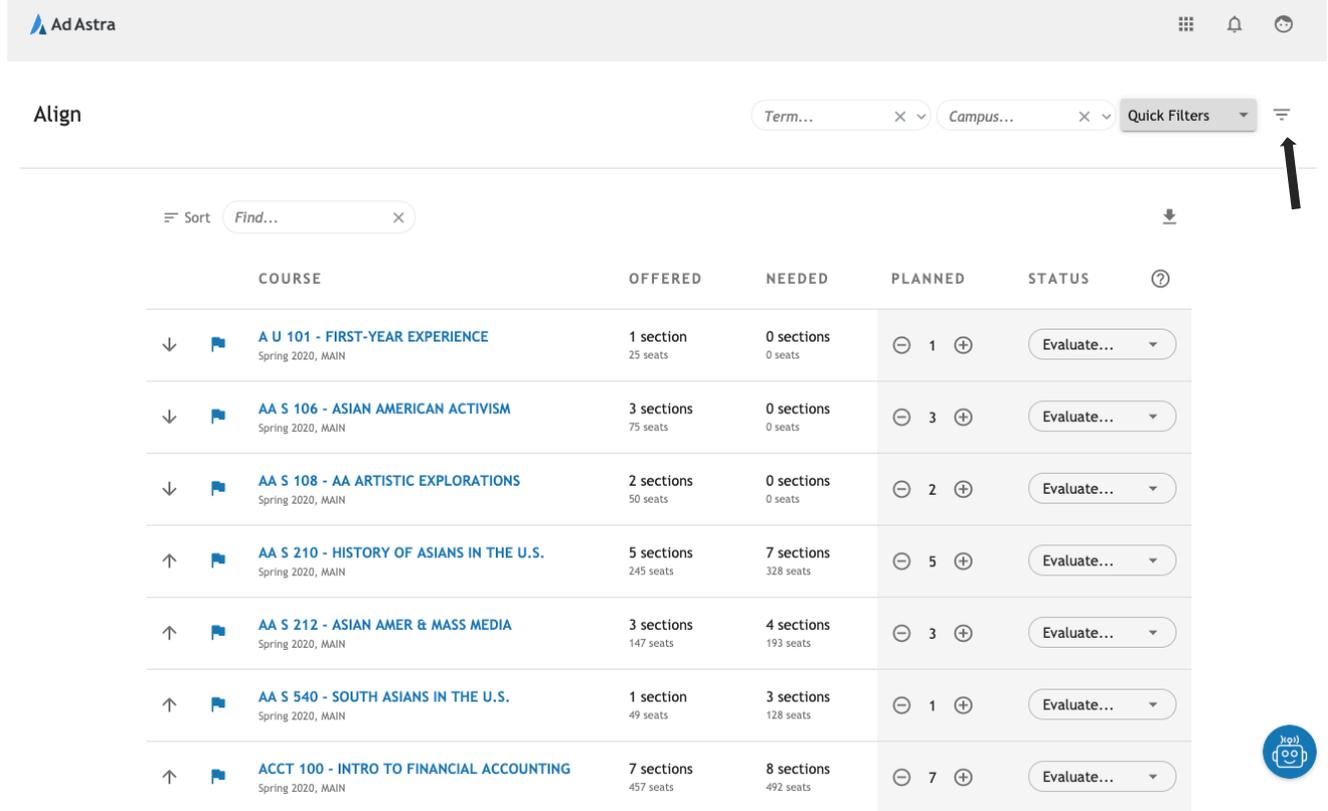
- Enrollment ratios of 95% or higher are classified as high demand courses. These courses represent potential bottlenecks to student progress towards degree because the number of seats offered has consistently been lower than seats needed by students.
- Enrollment ratios of 50% or less are classified as potentially underutilized courses. Demand or need for these courses appear to be low. Low demand could be caused by too large of a selection of courses that meet the same requirement for students, or too frequent offering of a course.
- Enrollment ratios of 70-95% are classified as balanced courses. Enrollments are high enough for efficiency, but seats are available to allow students to change their schedule as needed.
- Target enrollment ratios: 85% on average for all undergraduate courses, with no more than 10% of courses enrolling at 95% or greater, and no more than 30% of courses enrolling at less than 70%.

Align terms

- Offered – sections and seats currently offered in the term of interest.
- Needed – the total number of sections and seats needed based on analysis.
- Planned – can be used to model the addition or reduction of sections of a course
- Status – can be used to track schedule review and approval (not in place on our campus)
- Candidate types
 - ↑ : addition candidate. Courses where the demand indicates that at least half of an additional section of the course (based on average section size) would fill.
 - ↓ : reduction candidate. Sections of a course that could potentially be removed from the schedule without having a negative impact on students.
 - ✓ : No action candidate. Sections offered seem to meet predicted demand.
 - ■ : filled in flag means top candidate. These are recommendations that the system has the most confidence in and that potentially have the highest impact.
 - Addition criteria: historical enrollment ratio of 95% or higher **or** the course has enrolled more students than current seats offered by at least 70% of the average section size in a past term.
 - Reduction criteria: historical enrollment ratio of less than 70% **and** seats offered exceed demand by at least the average section size.
- Candidate details. Place the cursor over the arrow or check mark for more details about the candidate.
 - Standard addition: Analysis indicates that more sections of a course are needed than currently offered in the schedule.
 - Potential addition: Analysis indicates that the numbers of sections offered is equal to the predicted number of sections needed, but there is evidence that additional capacity may be needed. Evidence includes high enrollment ratios or an upward enrollment trend over past terms.
 - Standard reduction: Analysis indicates that fewer sections of a course are needed than currently offered in the schedule **and** the most recent enrollment ratio is less than 95%.
 - Low demand: Analysis indicates little demand for the course **and** the historical enrollment ratio is less than 50%.
 - Standard no action: Analysis indicates that what is being offered should satisfy demand.
 - New course: a course for which there is no prior history
 - Never been taught on this campus: a course for which there is no prior history
 - Overloaded no action: More sections are being offered than needed, but the most recent enrollment ratio is 95% or greater, supporting the additional section(s).

Appendix 2. Create or Modify a Filter

To create a filter, click on the inverted triangle icon next to the Quick Filter window.

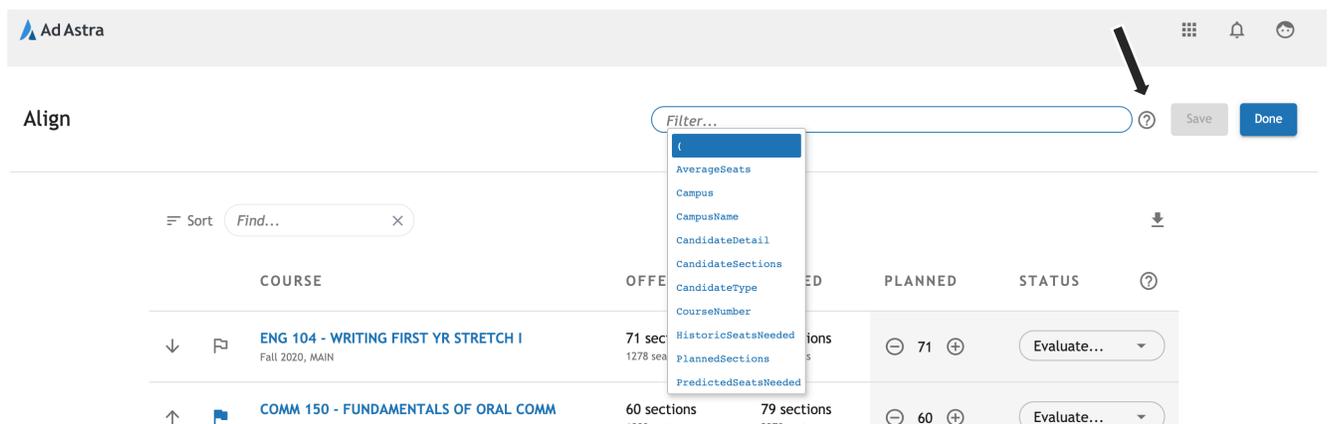


The screenshot shows the Ad Astra interface with a table of courses. At the top right, there are search filters for 'Term...' and 'Campus...', followed by a 'Quick Filters' dropdown menu. An arrow points to the inverted triangle icon next to 'Quick Filters'. Below the table, there is a 'Sort' button and a 'Find...' search box. The table has columns for 'COURSE', 'OFFERED', 'NEEDED', 'PLANNED', and 'STATUS'. Each row represents a course with its details and an 'Evaluate...' button.

COURSE	OFFERED	NEEDED	PLANNED	STATUS
A U 101 - FIRST-YEAR EXPERIENCE Spring 2020, MAIN	1 section 25 seats	0 sections 0 seats	1	Evaluate...
AA S 106 - ASIAN AMERICAN ACTIVISM Spring 2020, MAIN	3 sections 75 seats	0 sections 0 seats	3	Evaluate...
AA S 108 - AA ARTISTIC EXPLORATIONS Spring 2020, MAIN	2 sections 50 seats	0 sections 0 seats	2	Evaluate...
AA S 210 - HISTORY OF ASIANS IN THE U.S. Spring 2020, MAIN	5 sections 245 seats	7 sections 328 seats	5	Evaluate...
AA S 212 - ASIAN AMER & MASS MEDIA Spring 2020, MAIN	3 sections 147 seats	4 sections 193 seats	3	Evaluate...
AA S 540 - SOUTH ASIANS IN THE U.S. Spring 2020, MAIN	1 section 49 seats	3 sections 128 seats	1	Evaluate...
ACCT 100 - INTRO TO FINANCIAL ACCOUNTING Spring 2020, MAIN	7 sections 457 seats	8 sections 492 seats	7	Evaluate...

The display at the top will change to show a window where the filter is constructed. When the filter window is clicked, a drop down menu for different fields for the filter is displayed (see below).

Help with Filters: Click on the question mark icon next to the **Save** button to access a site with information about creating queries for filters.



The screenshot shows the Ad Astra interface with a filter construction window open. The window has a 'Filter...' input field, a question mark icon, and 'Save' and 'Done' buttons. A dropdown menu is open below the input field, listing various fields for filtering. An arrow points to the question mark icon.

COURSE	OFFERED	NEEDED	PLANNED	STATUS
ENG 104 - WRITING FIRST YR STRETCH I Fall 2020, MAIN	71 sections 1278 seats	71 sections 1278 seats	71	Evaluate...
COMM 150 - FUNDAMENTALS OF ORAL COMM	60 sections	79 sections	60	Evaluate...

Every filter consists of a field, an operator and a value. As the filter is created, there will be a drop down menu for the fields and operators to assist in the creation of the filter. The filter can also use “and” or “or” to include multiple fields for a larger query.

If a subject has a space in it, like A AS, use quotes around the subject in the query: “AA S”

Examples:

1. Create a filter for all English courses.

Field: Subject Operator: = Value: ENG

Query: **Subject = ENG**

Click in the filter window and select Subject in the Field menu. Once selected, an operator menu will appear. Select “=”. Type in the abbreviation of the subject (note – if the subject has a space in it, use quotes around the subject).

Ad Astra

Align

Subject

Save Done

Sort Find... X

	COURSE	OFFERED ↓		PLANNED	STATUS
↓	ENG 104 - WRITING FIRST YR STRETCH I Fall 2020, MAIN	71 sections 1278 seats	57 sections 1021 seats	71	Evaluate...
↑	COMM 150 - FUNDAMENTALS OF ORAL COMM	60 sections	79 sections	60	Evaluate...

Hit return after constructing this query and a list of all courses with the ENG prefix will be displayed.

Ad Astra

Align

Subject = ENG

Save Done

Sort Find... X

	COURSE	OFFERED ↓	NEEDED	PLANNED	STATUS
↓	ENG 104 - WRITING FIRST YR STRETCH I Fall 2020, MAIN	71 sections 1278 seats	57 sections 1021 seats	71	Evaluate...
↑	COMM 150 - FUNDAMENTALS OF ORAL COMM	60 sections	79 sections	60	Evaluate...

To save the query, click the **Save** button and enter a name for the filter. This filter will be stored in the Quick Filter list when you next login to the site, so that you can select it again. To discard the filter, click on **Done**.

You can also type the query directly (Subject = ENG) without using the drop down menus along the way.

If there are multiple subjects you wish to view, use an “or” and add in the other subject(s).

Example 2: Create a filter for all courses belonging to FINA

Type: subject = NUTR or subject = ADM or subject = ID or subject = FCS

Modify an existing filter to search add an additional field.

Example 3: Modify a filter to include all courses in a particular breadth or elective group.

Select the Quick Filter of interest and then the filter icon. For this example, the BECA Quick Filter is being used.

The query for the BECA Quick Filter will be displayed in the window. Add a space and the “AND” “OR” operators will be displayed.

The screenshot shows the 'Align' interface. At the top, there is a search bar containing 'Subject = BECA'. To the right of the search bar are 'Save' and 'Done' buttons. Below the search bar, a dropdown menu is open, showing 'AND' and 'OR' options. Below the search bar, there is a 'Sort' button and a 'Find...' search box. The main content area is a table with columns: COURSE, OFFERED ↓, NEEDED, PLANNED, and STATUS. The table contains two rows of course data.

	COURSE	OFFERED ↓	NEEDED	PLANNED	STATUS
↑	BECA 231 - AUDIO LABORATORY Spring 2020, MAIN	4 sections 60 seats	7 sections 109 seats	⊖ 4 ⊕	Evaluate...
↑	BECA 231 - AUDIO PRODUCTION BASICS Spring 2021, MAIN	4 sections 60 seats	4 sections 61 seats	⊖ 4 ⊕	Evaluate...

Select “AND”. The Field menu will be displayed.

Select “coursenumber” from this menu. Select “=” from the operator menu that will appear, then type the course number.

The screenshot shows the 'Align' interface with the updated filter query 'Subject = BECA and CourseNumber = 231' in the search bar. The 'Save' and 'Done' buttons are visible. The table below the search bar is identical to the one in the previous screenshot.

	COURSE	OFFERED ↓	NEEDED	PLANNED	STATUS
↑	BECA 231 - AUDIO LABORATORY Spring 2020, MAIN	4 sections 60 seats	7 sections 109 seats	⊖ 4 ⊕	Evaluate...
↑	BECA 231 - AUDIO PRODUCTION BASICS Spring 2021, MAIN	4 sections 60 seats	4 sections 61 seats	⊖ 4 ⊕	Evaluate...

Add other course numbers using “or coursenumber = ” with parantheses around the coursenumber group.

Align Subject = BECA and (CourseNumber = 231 OR CourseNumber = 241 OR CourseNumber = 246) Save Done

Sort

COURSE	OFFERED ↓	NEEDED	PLANNED	STATUS
↑ BECA 231 - AUDIO LABORATORY <small>Spring 2020, MAIN</small>	4 sections 60 seats	7 sections 109 seats	⊖ 4 ⊕	Evaluate... ↓
↑ BECA 241 - VIDEO LABORATORY <small>Spring 2020, MAIN</small>	4 sections 80 seats	8 sections 161 seats	⊖ 4 ⊕	Evaluate... ↓

The filter is applied as it is built.

This filter can be saved by clicking on the save button. The saved filter will be kept in the Quick Filter menu for future use.

Sharing and deleting filters: In the **Quick Filters** box, click on the arrow to display all saved filters. Click on the line of three dots next to the filter to see some additional icons. The trash icon can be used to delete the filter. The share icon can be used to share the filter with another user in the system. Type in the name of the person to share the filter with or search for the person in the menu that comes up when you click into the select users window.

Spring 2020 × ▼

- My Filters
- English courses ⋮
- FINA Courses ⋮
- Shared With Me
- GE LD-A1 ⋮

Analyze Courses