

Scaling Groups in the ACT Certification System (ACS) September 2023



**Board of Senior Secondary Studies
ACT Certification System (ACS)**

ACT Board of Senior Secondary Studies Certification System

This software enables teachers to enter the college data required for the certification of students in their senior secondary years.

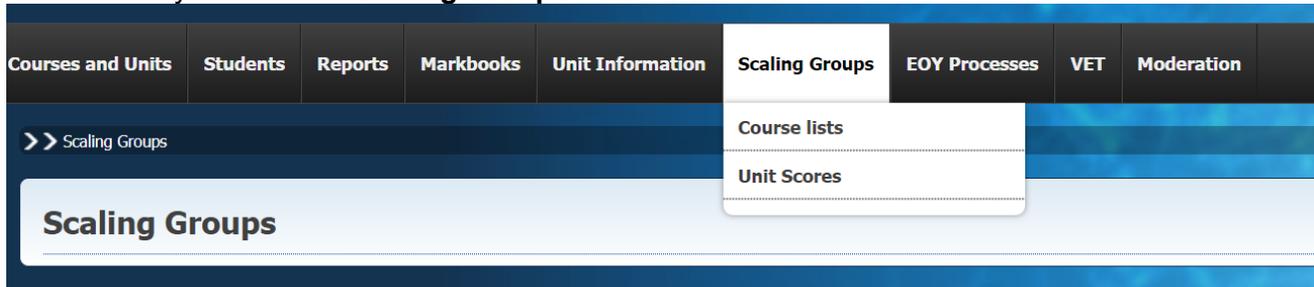
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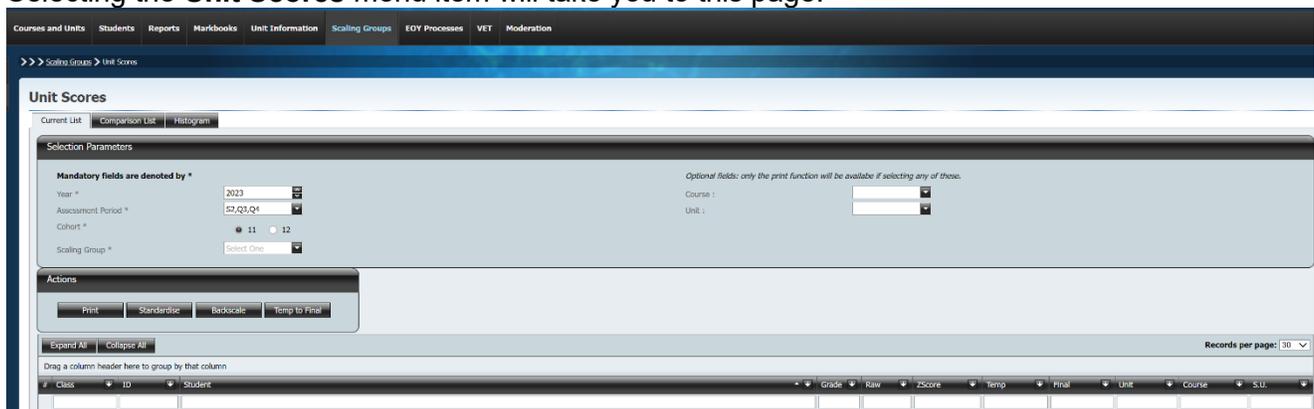
Scaling Groups

Scaling groups are used for the standardisation or scaling of student scores at the end of each semester.

In the past, certification officers or teachers needed to create scaling group lists for data entry and lists for backscaling of T and H units. However, new ACS functionality means that this will automatically be done in the system via the **Scaling Groups - > Unit Scores** menu item.

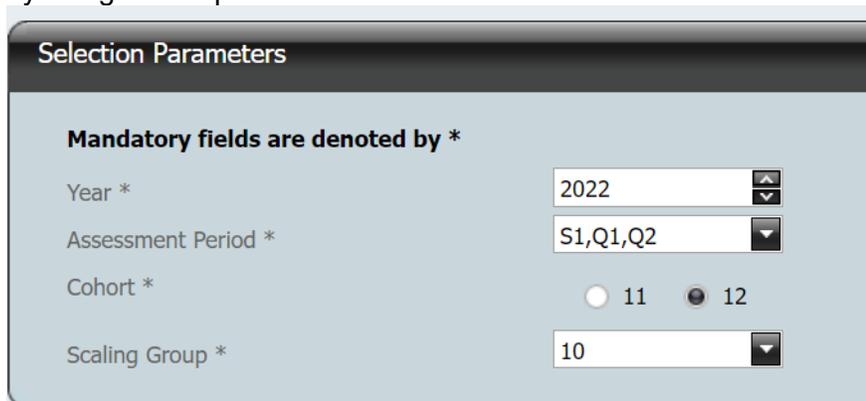


Selecting the **Unit Scores** menu item will take you to this page:



The Current List tab is where standardisation or backscaling is done.

We use the Selection Parameters section to select the scaling group that we wish to standardise or backscale. We select the year, assessment period, cohort and scaling group that we are interested in by using the drop downs and the radio buttons.



Note that 'Cohort' always refers to the *current* cohort. So, if we were currently in 2023, selecting the Cohort as '12' means that we are looking at students who are in year 12 *now*. As we have selected the Year as 2022, we are looking at these students when most of them were in year 11.

This is what we will see in our list – students with grades, raw scores and z-scores against the units and courses that are part of the scaling group. It will also include the standard unit value for the unit that the student completed.

	Grade	Raw	ZScore	Temp	Final	Unit	Course	S.U.
	A	90.08	3.23	0.00	0.00	14372	1381	1
	A	87.75	2.98	0.00	0.00	14372	1381	1
	A	86.13	2.81	0.00	0.00	14372	1381	1
	B	85.72	2.77	0.00	0.00	10613	1035	1
	B	85.20	2.72	0.00	0.00	10613	1035	1
	B	84.09	2.60	0.00	0.00	14372	1381	1
	B	83.43	2.53	0.00	0.00	14374	1381	0.5

All scores need to have been finalised in the markbook, along with grades for all assessment items, for standardisation or backscaling to be completed. It will be assumed that the various courses have been properly meshed according to BSSS policies and your school's meshing plan for this scaling group.

Initial Standardisation

The unit scores for the first assessment period in year 11 are usually standardised to historical parameters. In each subsequent assessment period, the unit results are backscaled onto the results from the previous assessment period. This is BSSS policy (4.3.4.2).

Where a course has been identified as a small group, schools may decide to standardise or leave final unit scores as raw.

This is what we will see in our list – students with grades, raw scores and z-scores against the units and courses that are part of the scaling group. It will also include the standard unit value for the unit that the student completed.

	Grade	Raw	ZScore	Temp	Final	Unit	Course	S.U.
	A	90.08	3.23	0.00	0.00	14372	1381	1
	A	87.75	2.98	0.00	0.00	14372	1381	1
	A	86.13	2.81	0.00	0.00	14372	1381	1
	B	85.72	2.77	0.00	0.00	10613	1035	1
	B	85.20	2.72	0.00	0.00	10613	1035	1
	B	84.09	2.60	0.00	0.00	14372	1381	1
	B	83.43	2.53	0.00	0.00	14374	1381	0.5

The list of actions available to us in this screen is displayed as follows:



If we click on the 'Backscale' button by mistake, this is what we will see:

The screenshot shows the 'Unit Scores' interface with a dialog box overlaid. The dialog box title is 'acs.sde.dev.act.gov.au says' and the message reads: 'Backscaled scores will be written to the Temp column. Do you wish to continue?'. There are 'OK' and 'Cancel' buttons at the bottom right of the dialog. In the background, the 'Unit Scores' page is visible, showing 'Selection Parameters' with fields for Year (2022), Assessment Period (S1,Q1,Q2), Cohort (11 and 12), and Scaling Group (10). Below these are 'Actions' buttons: Print, Standardise, Backscale, and Temp to Final.

If we now click on 'OK', this is what will happen:

The screenshot shows the 'Unit Scores' interface with an error message dialog box overlaid. The dialog box title is 'acs.sde.dev.act.gov.au says' and the message reads: 'There is no preceding scaling group rank order list.' There is an 'OK' button at the bottom right of the dialog. In the background, the 'Unit Scores' page is visible, showing 'Selection Parameters' with fields for Year (2022), Assessment Period (S1,Q1,Q2), Cohort (11 and 12), and Scaling Group (10). Below these are 'Actions' buttons: Print, Standardise, Backscale, and Temp to Final.

What this error means is that there is no list to backscale to for year 11 semester 1. This reminds you that you need to standardise.

If we click on the 'Standardise' button, this is what we see:

The screenshot shows a dialog box titled 'Standardise Options'. It contains three radio button options:

- Standardise raw scores using new Mean and Std Dev to the temporary column
- Copy raw scores to temporary column
- Set temp scores to zero

 There are 'OK' and 'Cancel' buttons at the bottom right of the dialog.

If we select 'Standardise raw scores using new Mean and Std Dev to the temporary column', this is what we see:



Standardise Options

Mean Std Dev

Standardise raw scores using new Mean and Std Dev to the temporary column

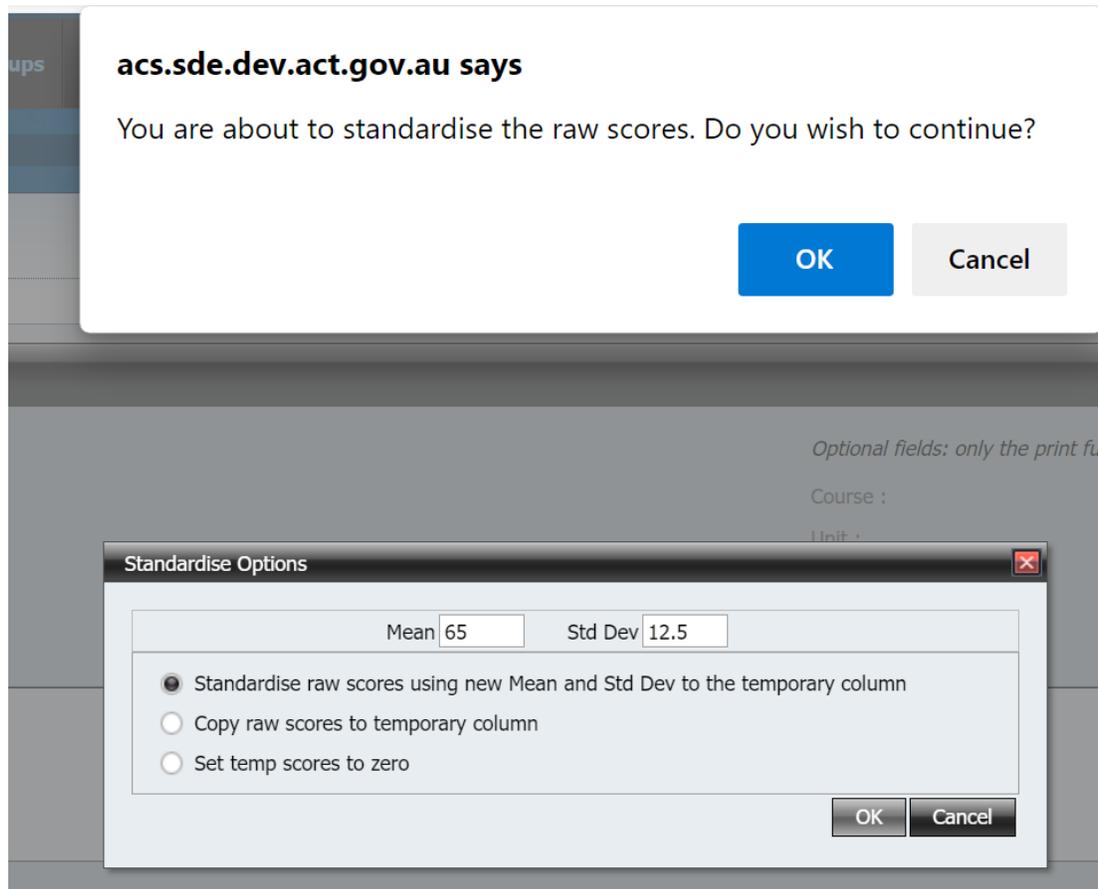
Copy raw scores to temporary column

Set temp scores to zero

OK Cancel

We will need to enter the mean and standard deviation (historical parameters) for this scaling group. This should have been determined from historical data or student results from things like NAPLAN to enable meaningful comparisons between scaling groups within a school. Note that getting these parameters 'wrong' is not an issue for end-of-year scaling. However, care should be taken when setting these to ensure that students get as reliable of a picture as possible for how they are going in one course compared to another.

When we have entered these values, we can press enter. This is what we see:



acs.sde.dev.act.gov.au says

You are about to standardise the raw scores. Do you wish to continue?

OK Cancel

Standardise Options

Mean 65 Std Dev 12.5

Standardise raw scores using new Mean and Std Dev to the temporary column

Copy raw scores to temporary column

Set temp scores to zero

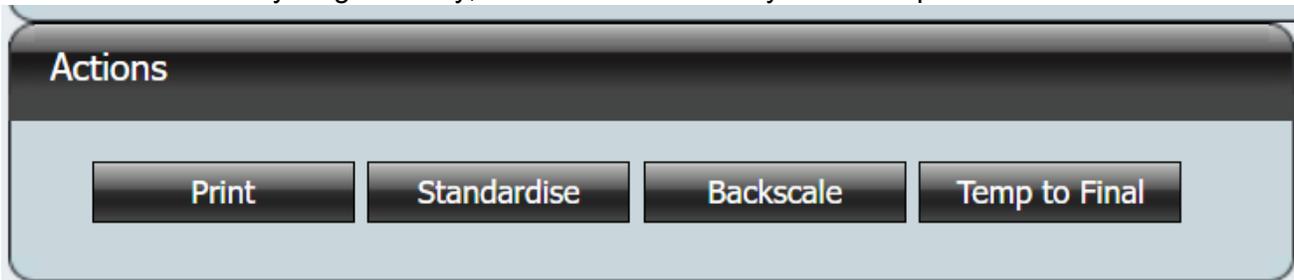
OK Cancel

Note that the mean of 65 and the Std Dev of 12.5 is what has been set in this example. As stated above, you will need to have set these using the evidence available to you.

We press 'OK' and the scaled scores are calculated for us and written into the temporary column:

Grade	Raw	ZScore	Temp	Final	Unit	Course	S.U.
A	90.08	3.23	105.32	0.00	14372	1381	1
A	87.75	2.98	102.28	0.00	14372	1381	1
A	86.13	2.81	100.17	0.00	14372	1381	1
B	85.72	2.77	99.63	0.00	10613	1035	1
B	85.20	2.72	98.96	0.00	10613	1035	1
B	84.09	2.60	97.51	0.00	14372	1381	1
B	83.43	2.53	96.65	0.00	14374	1381	0.5

If we have done everything correctly, then we are now ready to set temp to final.



Clicking on Temp to Final will bring up the below screen:

Current List | Comparison List | Histogram

Selection Parameters

Mandatory fields are denoted by *

Year *

Assessment Period *

Cohort * 11 12

Scaling Group *

acs.sde.dev.act.gov.au says

You are about to transfer temp into final and save final scores. Do you wish to continue?

Actions

Click OK to complete the process:

Grade	Raw	ZScore	Temp	Final	Unit	Course	S.U.
A	90.08	3.23	105.32	105.32	14372	1381	1
A	87.75	2.98	102.28	102.28	14372	1381	1
A	86.13	2.81	100.17	100.17	14372	1381	1
B	85.72	2.77	99.63	99.63	10613	1035	1
B	85.20	2.72	98.96	98.96	10613	1035	1
B	84.09	2.60	97.51	97.51	14372	1381	1
B	83.43	2.53	96.65	96.65	14374	1381	0.5

Backscaling

Backscaling is almost identical to standardising. The only difference is that you use the backscale button. Having selected a scaling group, calendar year, cohort and assessment period, you hit backscale:

The screenshot shows a software interface with three tabs: 'Current List', 'Comparison List', and 'Histogram'. The 'Comparison List' tab is active. Below the tabs is a 'Selection Parameters' section with the following fields:

- Mandatory fields are denoted by ***
- Year *: 2022 (dropdown menu)
- Assessment Period *: S2,Q3,Q4 (dropdown menu)
- Cohort *: 11 12
- Scaling Group *: 10 (dropdown menu)

Below the selection parameters is an 'Actions' section with four buttons: 'Print', 'Standardise', 'Backscale', and 'Temp to Final'.

Note that again all results need to be in for all students in the scaling group:

Grade	Raw	ZScore	Temp	Final	Unit	Course	S.U.
A	92.47	3.53	0.00	0.00	14375	1381	1
B	92.27	3.51	0.00	0.00	10757	1035	1
B	91.13	3.39	0.00	0.00	10757	1035	1
B	87.02	2.96	0.00	0.00	10757	1035	1
A	84.76	2.72	0.00	0.00	14375	1381	1
A	84.23	2.67	0.00	0.00	14375	1381	1
B	82.95	2.53	0.00	0.00	14375	1381	1
B	82.56	2.49	0.00	0.00	14375	1381	1
B	81.70	2.40	0.00	0.00	14375	1381	1
B	81.42	2.37	0.00	0.00	14375	1381	1

The screenshot shows the 'Unit Scores' interface with the same selection parameters as above. A confirmation dialog box is overlaid on the interface, titled 'acs.sde.dev.act.gov.au says'. The dialog contains the text: 'Backscaled scores will be written to the Temp column. Do you wish to continue?'. There are 'OK' and 'Cancel' buttons at the bottom of the dialog.

Clicking 'OK' will cause ACS to calculate the backscaled unit scores for all students in the scaling group.

The backscaled scores have been written to the Temp column:

Grade	Raw	ZScore	Temp	Final	Unit	Course	S.U.
A	92.47	3.53	110.24	0.00	14375	1381	1
B	92.27	3.51	109.98	0.00	10757	1035	1
B	91.13	3.39	108.47	0.00	10757	1035	1
B	87.02	2.96	103.03	0.00	10757	1035	1
A	84.76	2.72	100.04	0.00	14375	1381	1
A	84.23	2.67	99.35	0.00	14375	1381	1
B	82.95	2.53	97.64	0.00	14375	1381	1
B	82.56	2.49	97.13	0.00	14375	1381	1

If we have done everything correctly, we then set the Temp scores to Final:

Actions

Print
Standardise
Backscale
Temp to Final

Unit Scores

Current List Comparison List Histogram

Selection Parameters

Mandatory fields are denoted by *

Year *

Assessment Period *

Cohort * 11 12

Scaling Group *

Actions

Print
Standardise
Backscale
Temp to Final

acs.sde.dev.act.gov.au says

You are about to transfer temp into final and save final scores. Do you wish to continue?

OK
Cancel

After clicking OK, the temporary scores have been written into the final column:

Grade	Raw	ZScore	Temp	Final	Unit	Course	S.U.
A	92.47	3.53	110.24	110.24	14375	1381	1
B	92.27	3.51	109.98	109.98	10757	1035	1
B	91.13	3.39	108.47	108.47	10757	1035	1
B	87.02	2.96	103.03	103.03	10757	1035	1
A	84.76	2.72	100.04	100.04	14375	1381	1
A	84.23	2.67	99.35	99.35	14375	1381	1
B	82.95	2.53	97.64	97.64	14375	1381	1
B	82.56	2.49	97.13	97.13	14375	1381	1

The Comparison List

If you want to compare two scaling groups, the Comparison List tab is how you do that.

>>> Scaling Groups > Unit Scores

Unit Scores

Current List Comparison List Histogram

Selection Parameters

Mandatory fields are denoted by *

Year * 2021

Assessment Period * S1,Q1,Q2

Cohort * 11 12

Scaling Group * 10

Common Statistics

	Score count	Mean	Std Dev
New Current List	0	0.00	0.00
Current List Raws	0	0.00	0.00
Comparison Finals	0	0.00	0.00

You can select any year, assessment period, cohort and scaling group to compare to the scaling group in your current list. However, the comparison is only looking at students common to both scaling groups. In this particular case, there are no common students so the common statistics are all zero.

If we select a scaling group list that has students in common with our current list, we will see this:

>>> Scaling Groups > Unit Scores

Unit Scores

Current List Comparison List Histogram

Selection Parameters

Mandatory fields are denoted by *

Year * 2022

Assessment Period * S1,Q1,Q2

Cohort * 11 12

Scaling Group * 10

Common Statistics

	Score count	Mean	Std Dev
New Current List	372	65.89	12.55
Current List Raws	372	59.07	9.47
Comparison Finals	372	66.08	12.52

In this particular case, we have selected the scaling group that was used to backscale our current list. As such, we can see that the Comparison Finals and New Current List statistics are very similar.

In the below situation, this is not the case:

Selection Parameters

Mandatory fields are denoted by *

Year *

Assessment Period *

Cohort * 11 12

Scaling Group *

Common Statistics

Score count	52	
	Mean	Std Dev
New Current List	64.7	21.63
Current List Raws	55.64	5.60
Comparison Finals	57.21	12.76

Remember: we are only comparing the students that are in both lists.

There is no necessity for you to look at these if you do not want to. Some schools, however, may want to compare their parameters for students between scaling groups, particularly in year 11, to ensure that things are behaving as expected. A school might also use the scaling parameters from similar scaling groups to standardise. For example, a school might use the statistics from the English scaling group to standardise the Humanities scaling group.

In the Comparison List, you will also see students in blue who are in both scaling groups and students in white who are not in the Current List:

Grade	Raw	ZScore	Temp	Final	Unit	Course	S.U.
C	55.78	-0.21	54.22	54.22	34805	3386	1
C	60.21	0.19	59.46	59.46	88974	8717	1
C	55.66	-0.23	54.07	54.07	88974	8717	1
C	58.19	0.01	57.07	57.07	88974	8717	1
C	51.48	-0.61	49.13	49.13	88974	8717	1
A	86.82	2.61	90.98	90.98	34805	3386	1
C	57.30	-0.08	56.02	56.02	88974	8717	1
C	53.13	-0.46	51.07	51.07	34805	3396	1
B	65.95	0.71	66.25	66.25	88974	8717	1
B	68.07	0.91	68.77	68.77	03255	0380	1
C	56.21	-0.17	54.73	54.73	34802	3386	1

Similarly, in the Current List, you will see students in blue who are in both scaling groups and students in white who are not in the Comparison List:

C	63.04	0.43	71.32	71.32	14375	1381	1
C	62.97	0.43	71.23	71.23	11241	1137	1
D	62.93	0.42	71.18	71.18	14375	1381	1
C	62.82	0.41	71.02	71.02	11241	1137	1
D	62.60	0.39	70.74	70.74	14375	1381	1
D	62.50	0.38	70.60	70.60	14375	1381	1
C	62.45	0.37	70.53	70.53	11241	1137	1
C	62.43	0.37	70.52	70.52	10862	1088	1
C	62.43	0.37	70.52	70.52	11241	1137	1
C	62.35	0.36	70.41	70.41	10757	1035	1
C	62.31	0.36	70.35	70.35	10862	1088	1
C	62.20	0.34	70.20	70.20	11241	1137	1
C	62.18	0.34	70.18	70.18	10862	1088	1

Looking at courses and units in a scaling group

If we want to see student results from a course or unit within a scaling group, we can use the dropdowns on the right to do so.

Current List Comparison List Histogram

Selection Parameters

Mandatory fields are denoted by *

Year * 2022

Assessment Period * 52,Q3,Q4

Cohort * 11 12

Scaling Group * 10

Optional fields: only the print function will be available if selecting any of these.

Course :

Unit :

In scaling group 10, for example, we have the following courses:

Optional fields: only the print function will be available if selecting any of these.

Course :

Unit :

Course Code	Course Title
1035	SPECIALIST MATHEMATICS
1088	MATHEMATICAL METHODS
1137	MATHEMATICAL APPLICATIONS
1381	SPECIALIST METHODS
1501	FURTHER MATHEMATICS

If we select Mathematical Methods, for example, we will see all Actions buttons grey out except Print:

Actions

This is because backscaling is required by policy to be done at the scaling group level.

Our list will also change to only display students studying Mathematical Methods:

#	Class	ID	Student	Grade	Raw	ZScore	Temp	Final	Unit
	MMM2T.22			A	78.74	2.43	92.09	92.09	10E
	MMM2T.72			A	75.32	2.01	87.56	87.56	10E
	MMM2T.72			A	74.74	1.94	86.79	86.79	10E
	MMM2T.72			A	72.43	1.66	83.73	83.73	10E
	MMM2T.42			A	72.36	1.65	83.65	83.65	10E
	MMM2T.42			A	71.85	1.58	82.97	82.97	10E
	MMM2T.72			B	70.39	1.41	81.04	81.04	10E
	MMM2T.41			B	69.76	1.33	80.21	80.21	10E
	MMM2T.41			B	69.72	1.32	80.16	80.16	10E

We can do the same thing in the Comparison List tab to compare courses and units:

Optional fields

Course : MATHEMATICAL M

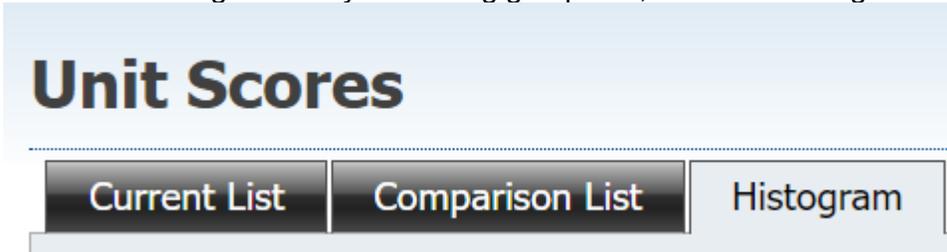
Unit :

This compares student results in methods from one semester to the other and may be useful for meshing courses in subsequent assessment periods:

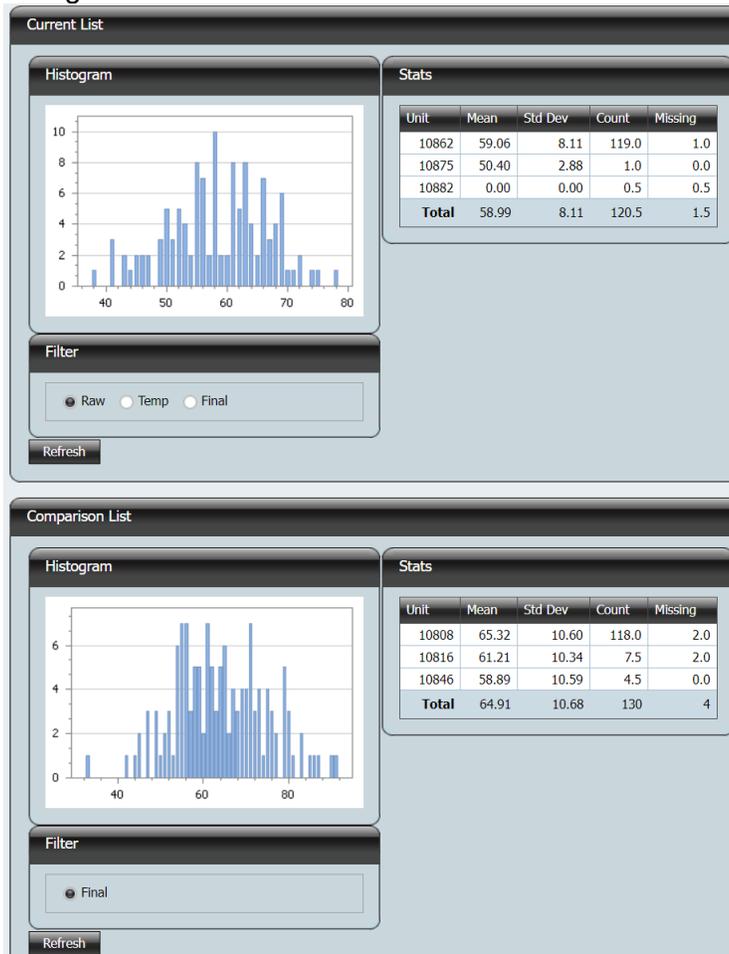
Common Statistics		
Score count	116	
	Mean	Std Dev
New Current List	65.53	11
Current List Raws	59.11	7.78
Comparison Finals	65.69	10.55

Histogram Tab

To see the histograms for your scaling group lists, select the histogram tab:



Then you will need to hit refresh on both the Current List histogram and the Comparison List histogram:



This will bring up the graphs and the statistics for your two scaling group lists, broken out by unit.

Providing access to scaling group lists

Permissions to scaling groups follow the following guidelines:

- The Basic and Faculty Head users can access scaling group lists via the menu system
- Access to scaling groups lists is controlled via the markbook security set up for the user. In other words, if the user has been given access to scaling group 1 in markbook security, then this user can access all scaling group lists for scaling group 1.
- If users have only been granted access to specific markbooks only then they will NOT be able to access scaling group lists.
- By default those with Edit and above permissions can access all scaling groups. Access can be granted to specific scaling group lists. Users with access to a scaling group will have access to all scaling group lists, current or future, in that scaling group.

Under the **Markbooks** heading in the menu pane select **User Access** and the following screen will appear:

User	User Permission by Scaling Group
alex_lenarduzzi	
alex_obrien	16, 40, 94, 95

Click on the **User Name** hyperlink to select a user. To assist in finding users, the filter option is available. Only the Basic Users and VET Users are shown. The following screen appears:

Alex_obrien's Markbook Access

Markbook Access

<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 10
<input checked="" type="checkbox"/> 16	<input type="checkbox"/> 20	<input type="checkbox"/> 22	<input type="checkbox"/> 24	<input type="checkbox"/> 30
<input checked="" type="checkbox"/> 40	<input type="checkbox"/> 45	<input type="checkbox"/> 50	<input type="checkbox"/> 60	<input type="checkbox"/> 70
<input type="checkbox"/> 71	<input type="checkbox"/> 78	<input type="checkbox"/> 81	<input type="checkbox"/> 86	<input type="checkbox"/> 91
<input checked="" type="checkbox"/> 94	<input checked="" type="checkbox"/> 95			

Select All Unselect All Cancel Save

Click in the check boxes next to the scaling group number. The scaling group number is for both year 11 and year 12 scaling groups. (in other words, clicking on 5 gives the user access to all markbooks in scaling group 5 for both year 11 and 12 students).

Click on the **Save** button. The scaling groups for which that user has access will appear.

To remove access, uncheck the check boxes in the **Markbook Access** screen and click the **Save** button.