

ACADEMIC PRIORITIZATION 2014 – CU BOULDER

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A. Overview

In the Fall of 2013, the CU Board of Regents directed each of the campuses in the CU System to initiate work to develop academic and administrative prioritization constructs that could provide insights into the way in which individual academic and administrative units contribute to the core mission of the university.

On the CU Boulder campus the Academic Affairs Budget Advisory Committee (AABAC), under the direction of Sr. Vice Provost Kaempfer, received a charge to develop a simple and understandable academic prioritization construct that:

- a) Used quantitative data and metrics to shed light on programmatic efficiencies, space use, academic reputation, and teaching effectiveness on a unit-by-unit basis;
- b) Provides insights in how each academic unit contributes to the strategic goals of the campus;
- c) Can be refreshed on an annual basis;
- d) Provides an adjunct to rather than a replacement of our existing periodic Academic Review and Planning Advisory Committee (ARPAC) review of academic programs.

Insofar as the complexity and character of academic programs on the Boulder campus are highly variable, the prioritization of programs based on the application of a homogeneous set of metrics to a very heterogeneous set of programs should not be viewed on a superficial level (eg. reduced to a single score or metric). Rather, the value of the prioritization process is in the in-depth analysis of categorical metrics that can be used to better understand how a specific academic unit contributes to the mission of the Boulder campus.

The information that follows is a current state summary of the work of AABAC and ARPAC in developing a useful prioritization tool.

Section B. Methodological Summary

Methodology

AABAC examined 10 different program characteristics in its prioritization of degree-granting, academic units. However, each of these characteristics was itself a combination of various measures, for instance expenditures relative to student credit hours taught of research funding relative to space allocation. A separate scale was applied to each of the 10 program characteristics which were then grouped into four clusters: resource efficiency, degree production, scholarly accomplishments and undergraduate teaching effectiveness. Scores in each cluster were averaged in order to reach a final prioritization score. In addition, the uniqueness of a program's degree offerings was examined, although this factor did not fit directly into the final academic prioritization score.

Resource Efficiency examines program delivery in terms of cost, relative revenue production and space-use efficiency. The metrics examined under resource efficiency are almost all measured at the departmental or college level, not at the level of the individual degree or major, therefore aggregate departmental resource efficiency is applied to multiple degree programs. For instance, the cost and space utilization efficiency measures for the Department of Art and Art History would be used in examining its various BA, MA, BFA and MFA degree programs in Art History and Studio Arts. This is because one faculty and one space array is deployed to offer these multiple degrees.

For the Resource Efficiency cluster, the first characteristic examined is cost per student credit hour. For this, cost is measured by calculating all expenditures in a unit classified as "general fund" including faculty and staff salaries (but not most benefits), graduate student expenditures at the unit and operating costs. Cost is then divided by the number of student credit hours produced in a unit in all of its degree and non-degree offerings. For departments in the Colleges of Arts and Sciences and Engineering and Applied Science, the college-level operating costs, for instance for college-level advising, are prorated among individual departments. Indirect cost allocations to departments and colleges are not removed from the calculation as it is felt delivery of the research mission of a unit is integral to the unit's teaching mission.

Income and Expenses is a profit/loss measure for each department that calculates gross revenue generated in terms of the tuition value of student credit hour and major production as well as research and auxiliary revenue (sources) relative to various costs (uses). This measure is an important complement to cost efficiency in that it captures the relative scale of production. In other words, while Psychology and Classics are comparable in terms of cost per credit hour, the huge size of the Psychology program projects into a considerable source of campus excess of sources over uses.

The efficiency of space utilization is an important criterion in the overall resource efficiency of program delivery. It is necessary to recognize that many programs, especially in the laboratory sciences and creative arts, require large amounts space for program delivery relative to programs that depend primarily on centrally scheduled classrooms, faculty offices and space for departmental offices. The costs of space allocations are not captured by general fund expenditures. To

measure space efficiency, all units are ranked by the dollar amount of research per departmental square foot of space and by the number of majors per square foot of space. The average of these two rankings is the basis of the total score.

Degree Production measures the share of total degrees produced at CU Boulder over the past six years calculated both for all degrees and for graduate degrees specifically in recognition of the campus's mission in graduate education. When a student graduates with a double major, both degree granting units receive credit. It is important to note here that degree production will differ from number of majors because many students graduate with a degree different from an initially declared major. A low degree-to-major number may indicate retention issues inside a department.

Scholarly Accomplishments summarizes the research and creative achievements of the faculty in the academic units across campus. For a research university like CU Boulder, it is critical to measure the scholarly accomplishments of our departments in some standardized way not only inside the campus but in comparison to other institutions. Fortunately, recent advantages in research data collection allow us to go beyond simple publication counts and rankings based on reputations. Based on the data made available through Academic Analytics, we can now measure the relative scholarly achievement of most units on campus. Included in this measure are research productivity factors that include the number of publications, as well as the amount of grant funding received, citations to previous work and honors and award recognition to the faculty (like Nobel Prizes, MacArthur Grants, membership in National Academies and so forth). These factors are captured on both a per capita and total basis to give an aggregate measure that can then be compared to other PhD granting departments in the same field.

For most units, we scale this ranking as it percentile ranking among PhD offering programs in that discipline. For instance, Geography's ranking is 100% because it scores as the top program of 87 Geography PhD programs in the US and Canada. In this way we can compare the scholarly quality and accomplishments of units across campus relative to their accomplishments in their respective disciplines. Programs not granting PhDs are scored at the median percentile. Programs are then ranked by quintile.

Teaching Effectiveness measures the extent to which a unit serves its own majors and the curricular needs of other units on campus. Rather than relying on Faculty Course Questionnaire data which would present aggregation issues when moving from the course level at which the data is collected to the department level at which prioritization must be accomplished, we employ two measures that are produced as part of the annual Senior Survey given to graduates. The first measure is overall satisfaction with the major; the second is extent to which a major prepared a student to meet their post-graduation plans. In this way we capture the effectiveness of program in satisfying and preparing its students.

In addition, many departments fill a critical role of delivering important parts of the core curriculum or of the curriculum requirements of other majors. For instance Physics and Math are a necessary part of the education of all engineering majors, but are taught outside the College of Engineering and Applied Science.

The extent of this service teaching is an important part of the teaching mission of the campus and shows how critical the mission of some units happens to be, even when those units may not produce a large number of degrees.

Units were graded in each of the measures included in the four different clusters. Those measures were then scaled to give a cluster score which was then equally weighted to give a final prioritization score for each program included in the prioritization. In some instances, certain measures had to be interpolated from other data—for instance the Scholarly Accomplishments measure was not available for units without a PhD program or for some creative work departments. Departments and programs not offering an undergraduate degree, for instance Education and Law, were not graded on undergraduate teaching effectiveness. In such cases the Academic Prioritization score was the average of only three clusters.

Section C. Prioritization Dashboard (next page)

Legend

Efficacy in Delivering Campus Mission

Highly effective



Very effective



Effective



Moderately effective



Less than effective



	BACHELOR	MASTERS	DOCTORATE	FY13 GF exp/ SCH			SCORE	% of total degrees (6 yr. avg)			SCORE	Percentile Rank in Academic Analytics			SCORE	% of undergrad SCH taken by majors in other degree programs FY13			Mean of responses to Spring 2012 Seniors' Survey Major Satisfaction			SCORE	Score
	Degree Uniqueness CU=unique to CU-Boulder * = offered at CU-Boulder blank= degree not offered at CU-Boulder			Resource Efficiency			SCORE	Degree Production			SCORE	Scholarly Accomplishments			SCORE	Undergraduate Teaching Effectiveness			SCORE				
				Income and Expenses (PBA Sources and Uses)	Avg. Space Efficiency Score	SCORE	% of total degrees (6 yr. avg)	% of total graduate degrees (6 yr. avg)	SCORE	Percentile Rank in Academic Analytics	SCORE	% of undergrad SCH taken by majors in other degree programs FY13	Mean of responses to Spring 2012 Seniors' Survey Major Satisfaction	SCORE	Mean of responses to Spring 2012 Seniors' Survey Job Prep	SCORE							
Psychology	*	*	*			5.00			4.00		5.00			4.00		4.50							
Integrative Physiology	CU	CU	CU			4.67			4.00		5.00			3.67		4.33							
Sociology	*	*	*			5.00			3.00		5.00			4.33		4.33							
Education		CU	CU			3.33			4.50		5.00			4.28		4.28							
Economics	*	*	*			4.00			4.00		4.00			4.00		4.00							
Geography	*	CU	CU			3.67			3.00		5.00			4.33		4.00							
English	*	*	CU			3.33			4.00		4.00			4.33		3.92							
Communication	*	*	CU			4.67			3.50		4.00			3.33		3.88							
Aerospace	*	*	*			3.33			3.50		5.00			3.67		3.88							
Business	*	*	CU			4.00			5.00		3.00			3.33		3.83							
Chemistry & Biochemistry	*	*	*			3.00			3.00		5.00			4.33		3.83							
Civil Engineering	*	*	*			2.67			4.00		5.00			3.67		3.83							
Political Science	*	*	*			4.00			4.00		3.00			4.33		3.83							
Geological Sciences	*	*	*			3.00			2.50		5.00			4.67		3.79							
Computer Science	*	*	*			3.67			3.50		4.00			4.00		3.79							
International Affairs	*	*	*			4.50			4.00		3.00			3.67		3.79							
Eco and Evo Biology	CU	CU	CU			4.33			2.50		4.00			4.33		3.79							
Astrophysical & Planetary Sciences	CU	CU	CU			3.33			2.00		5.00			4.67		3.75							
Journalism	*	CU				3.33			4.00		4.00			3.67		3.75							
MCDB	*	*	*			3.00			3.00		5.00			4.00		3.75							
Mechanical Engineering	*	*	*			3.67			4.00		4.00			3.33		3.75							
Physics	*	*	*			2.67			3.00		5.00			4.33		3.75							
Anthropology	*	*	CU			4.00			2.50		4.00			4.33		3.71							
History	*	*	CU			4.00			2.50		4.00			4.33		3.71							
Philosophy	*	*	CU			3.33			2.50		4.00			4.67		3.63							
Linguistics	*	CU	CU			3.67			2.50		4.00			4.33		3.63							
Environmental Studies	*	CU	CU			4.67			3.00		3.00			3.67		3.58							
Chemical Engineering	*	*	*			2.67			3.00		5.00			3.67		3.58							
Applied Mathematics	CU	*	*			4.00			2.50		3.00			4.67		3.54							
Classics	CU	CU	CU			3.33			2.00		4.00			4.67		3.50							
Speech, Language & Hearing Sciences	*	CU	CU			3.00			3.00		4.00			4.00		3.50							
Humanities	CU					4.00			2.00		3.00			4.33		3.33							
Ethnic Studies	*	*	CU			3.33			2.00		3.00			4.67		3.25							
Electrical Engineering	*	*	*			2.33			4.00		3.00			3.33		3.17							
Women's Studies	*	*	*			3.33			2.00		3.00			4.33		3.17							
Other Engineering	*	CU	CU			3.00			3.50		3.00			3.17		3.17							
German and Slavic	CU	CU	CU			3.33			1.50		3.00			4.67		3.13							
Music	*	*	CU			1.67			3.50		3.00			4.33		3.13							
Spanish and Portuguese	*	*	CU			3.67			2.50		2.00			4.33		3.13							
Film Studies	CU					3.33			3.00		3.00			3.00		3.08							
Art and Art History	*	*	*			2.67			3.00		3.00			3.67		3.08							
Theatre and Dance	*	*	CU			3.00			2.00		3.00			4.33		3.08							
Environmental Design	CU					2.67			4.00		3.00			2.67		3.08							
Law		CU	CU			1.67			4.50		3.00			3.06		3.06							
Asian Lang and Civil	CU	CU	CU			3.33			2.00		3.00			3.67		3.00							
Mathematics	*	*	*			3.67			3.00		1.00			4.33		3.00							
Other A&S Degrees	*	*	*			5.00			1.00		3.00			3.00		3.00							
Religious Studies	CU	CU				3.33			1.50		3.00			4.00		2.96							
Atmospheric & Oceanic Sciences		CU	CU			2.67			2.00		4.00			2.89		2.89							
French & Italian	*	CU	CU			3.00			1.50		2.00			4.67		2.79							
ATLAS		CU	CU			2.50			1.00		3.00			2.17		2.17							
Comparative Literature		CU	CU			1.50			1.00		3.00			1.83		1.83							

Scoring Rubric				GF exp/SCH Scale	Income and Expenses (PBA Sources and Uses)	Avg. Space Efficiency	% of total degrees (6 yr. avg)	% of total graduate degrees (6 yr. avg)	Percentile Rank in Academic Analytics	% of undergrad SCH taken by majors in other degree programs FY13	Mean of responses to Spring 2012 Seniors' Survey Major Satisfaction	Mean of responses to Spring 2012 Seniors' Survey Job Prep
5	●	\$0-250	>\$2.0M	≥4	≥3.1	≥3.0%	≥26%	≥80%	≥80%	4	4	
4	●	\$251-500	0.5M - \$0.5M	3.1 - 3.9	2.0% - 2.99%	3% - 5.99%	60% - 79%	60% - 79%	3 - 3.9	3 - 3.9		
3	●	\$501-750	0.5M - \$0.5M	2.1 - 3	1.0% - 1.99%	1% - 2.99%	40% - 59%	40% - 59%	2 - 2.9	2 - 2.9		
2	●	\$751-1000	0.5M - \$2M	1.1 - 2	0.11% - 0.99%	0.6% - 3.9%	20% - 39%	20% - 39%	1 - 1.9	1 - 1.9		
1	●	\$1,001+	<\$-2.0M	≤1	≤0.10%	≤0.599%	<20%	≤20%	0 - 0.9	0 - 0.9		

Section D. ARPAC Narratives

Arts and Humanities - Prioritization Analysis and ARPAC Reporting

Record 1 of 50

Art and Art History (AAH)

Analysis:

The Department of Art and Art History is a core department for the College of Arts and Sciences and any liberal arts education. It offers the BA, the MA, and the MFA. The unit receives a silver rating on the academic prioritization metrics but the department provides many benefits to the university not covered in these metrics. The department needs to improve in all areas, though it does better on undergraduate teaching effectiveness. The unit should focus its efforts on improving in areas under its control, for example, by attracting more non-majors into its classes. The unit may suffer on some resource measures due to the need to teach smaller studio classes, the need for additional space to support educational and creative goals, and the lack of data in Academic Analytics on creative work.

[2009 AAH ARPAC Final Report](#) (pdf)

Record 2 of 50

Asian Languages and Civilizations (ALC)

Analysis:

The Department of Asian Languages and Civilizations is a core department for the College of Arts and Sciences and any liberal arts education. It offers the BA, MA, and PhD; it is the only department at a Colorado public university to offer these degrees. The unit receives a silver rating on the academic prioritization metrics. The unit needs to improve its scores across the board. It would do well to begin with improving the number of degrees produced. Academic Analytics data for combined language departments may not be completely reliable.

[2009 ALC ARPAC Final Report](#) (pdf)

Record 3 of 50

Classics (CLSS)

Analysis:

The Department of Classics is a core department for the College of Arts and Sciences and any liberal arts education. It offers the BA, MA, and PhD; it is the only department at a Colorado public university to offer degrees in classics. It receives a gold rating on the academic prioritization metrics. The department has a strong record of undergraduate teaching effectiveness, but needs to increase the number of degrees produced. Decreasing the time to degree for graduate students might help. Prior ARPAC recommendations on support for graduate students could help with their time to degree. The department needs to address its current low score on the PBA sources and uses measure, most directly by countering the drop in enrollments that have been seen across the division of Arts and Humanities. The department's record of scholarly accomplishments is strong.

[2009 CLSS ARPAC Final Report](#) (pdf)

Record 4 of 50
Comparative Literature (CMPL)

Analysis:

The Program in Comparative Literature, which has no rostered or tenured faculty, delivers graduate degrees only. It offers the MA and the PhD; it is the only program at a Colorado public university to offer these degrees. The unit received the lowest score on the academic prioritization metrics largely because the unit cannot be evaluated on undergraduate teaching. Academic Analytics does not supply a reliable rating for this unit. Resource efficiency is low, given that it delivers only small graduate seminars. ARPAC has long expressed concern about the viability of this program. In 2006 the campus program review panel (predecessor to ARPAC) recommended either that the program be discontinued or that the faculty in the various literature departments administer it.

Note: NO REVIEW REPORT

Record 5 of 50
English (ENGL)

Analysis:

The Department of English is a core department for the College of Arts and Sciences and any liberal arts education. It offers the BA, MA, and PhD; it is the only department at a Colorado public university to offer the PhD. It is the highest ranked department in the division of humanities and arts on the academic prioritization metrics. The department, which has traditionally been strong on the PBA sources and uses measure, needs to address its current low score in this category, most directly by countering the drop in enrollments that have been seen across the division. The department's record of

scholarly accomplishments have improved, as the unit, in accord with ARPAC recommendations, has hired prolific senior scholars and improved production by mid-rank faculty through better mentoring among other things.

[2009 ENGL ARPAC Final Report](#) (pdf)

Record 6 of 50

Film Studies (FILM)

Analysis:

The Film Studies Program offers the BA and the BFA; it is the only program at a Colorado public university to do so. It offers an MFA through the Department of Art and Art History. The unit receives a silver rating on the academic prioritization metrics. ARPAC notes that the department needs to improve in all areas. ARPAC believes the unit may suffer on some measures due to the need to teach smaller film production classes, the need for additional space to support educational and creative goals, and the lack of data in Academic Analytics on creative work. In 2009 ARPAC recommended restructuring degree programs; doing so may help the unit improve its metrics.

[2009 FILM ARPAC Final Report](#) (pdf)

Record 7 of 50

French and Italian (FRIT)

Analysis:

The Department of French and Italian is a core department for the College of Arts and Sciences and any liberal arts education. It offers the BA, MA, and PhD; it is the only department at a Colorado public university to offer the PhD. It receives a white rating on the academic prioritization metrics. ARPAC notes that the unit scores well on undergraduate teaching effectiveness, but it needs to increase its number of degrees produced. Decreasing the time to degree for graduate students might help. Prior ARPAC recommendations on support for graduate students could help with their time to degree. Academic Analytics data for combined language departments may not be completely reliable. Language departments also suffer, ARPAC notes, on resource efficiency, given the need to deliver language instruction in small sections. Small units may be disadvantaged in a number of the prioritization metrics. This unit has lost faculty due to retirements, and the administrative duties of some of its senior members. In 2009 ARPAC recommended additional investment in this unit; an adequate faculty size could help raise some of the department's scores.

[2009 FRIT ARPAC Final Report](#) (pdf)

Record 8 of 50
German and Slavic (GSSL)

Analysis:

The Department of Germanic and Slavic Languages and Literatures is a core department for the College of Arts and Sciences and any liberal arts education. It offers the BA, MA, and PhD; it is the only department at a Colorado public university to offer these degrees. The unit receives a silver rating on the academic prioritization metrics. The department has a high score for undergraduate teaching effectiveness, but ARPAC notes that it needs to increase its number of degrees produced. Decreasing the time to degree for graduate students might help. Prior ARPAC recommendations on support for graduate students could help with their time to degree. Of course, the department has just begun its doctoral program. Academic Analytics data for combined language departments may not be completely reliable.

[2009 GSSL ARPAC Final Report](#) (pdf)

Record 9 of 50
History (HIST)

Analysis:

The Department of History is a core department for the College of Arts and Sciences and any liberal arts education. It offers the BA, MA, and PhD; it is the only department at a Colorado public university to offer the PhD. It receives a gold rating on the Academic Prioritization metrics. The department has a strong record of undergraduate teaching effectiveness; on the other hand, ARPAC notes that the unit does not produce a large number of graduate degrees by choice. The department's record of scholarly accomplishments is strong at a time when it has made impressive hires across the ranks.

[2009 HIST ARPAC Final Report](#) (pdf)

Record 10 of 50
Humanities (HUMN)

Analysis:

The Humanities Program offers a unique interdisciplinary BA. It is the only program at a Colorado public university to offer this degree. As a small unit, with only two full time faculty active in it, Humanities does not score very well on some key metrics; its lack of a graduate program also has an impact on its ratings. It has a silver rating on the academic prioritization metrics. It does well on undergraduate teaching effectiveness, but it must improve its number of degrees produced and scholarly accomplishments. ARPAC notes

that it has repeatedly raised questions about the viability of such a small unit, whose degree could be delivered by another department, say, History, or English, or Art and Art History.

[2009 HUMN ARPAC Final Report](#) (pdf)

Record 11 of 50
Philosophy (PHIL)

Analysis:

The Department of Philosophy is a core department for the College of Arts and Sciences and any liberal arts education. It offers the BA, MA, and PhD; it is the only department at a Colorado public university to offer the PhD. It receives a gold rating on the academic prioritization metrics. The department scores well on undergraduate teaching effectiveness, but ARPAC notes that it needs to increase the number of degrees produced. Decreasing the time to degree for graduate students might help. Prior ARPAC recommendations on support for graduate students could help with their time to degree. The department needs to address its current low score on the PBA sources and uses measure, most directly by countering the drop in enrollments that have been seen across the division of arts and humanities. The department's record of scholarly accomplishments is strong, and ARPAC notes that it scores more highly on disciplinary measures than on those supplied by Academic Analytics. ARPAC notes its call in 2009 for the unit to address departmental climate issues.

[2009 PHIL ARPAC Final Report](#) (pdf)

Record 12 of 50
Religious Studies (RLST)

Analysis:

The Department of Religious Studies is a core department for the College of Arts and Sciences and any liberal arts education. It offers the BA and MA; it is the only department at a Colorado public university to offer these degrees. It receives a silver rating on the academic prioritization metrics. It receives its highest scores on undergraduate teaching effectiveness, including teaching a considerable number of non-majors, but has low scores on resource efficiency, and low scores on degree production. In the last program review cycle, ARPAC made recommendations that might help in these areas. ARPAC also encourages the department to improve its scholarly accomplishments.

[2009 RLST ARPAC Final Report](#) (pdf)

Record 13 of 50
Spanish and Portuguese (SPAN)

Analysis:

The Department of Spanish and Portuguese is a core department for the College of Arts and Sciences and any liberal arts education. It offers the BA, MA, and PhD; it is the only department at a Colorado public university to offer the PhD. It receives a silver rating on the academic prioritization metrics. It is the largest foreign language department on campus, but it faces some of the same problems as the other language programs, for example, the need to deliver a large portion of its curriculum in small classes in order to preserve the quality of language education. The department scores well on undergraduate teaching effectiveness, but it has low scores on degree production and scholarly accomplishments (on Academic Analytics data which may not offer reliable scores for departments offering more than one language). ARPAC notes that in the last program review cycle, it made recommendations that might help in these areas.

[2009 SPAN ARPAC Final Report](#) (pdf)

Record 14 of 50
Theatre and Dance (THDN)

Analysis:

The Department of Theater and Dance is a core department for the College of Arts and Sciences and any liberal arts education. It offers the BA, BFA, MA, MFA, and PhD; it is the only department at a Colorado public university to offer the PhD. The unit receives a silver rating on the academic prioritization metrics. The unit scores well on undergraduate teaching effectiveness, but it needs to increase the number of degrees produced. Decreasing the time to degree for graduate students might help. Prior ARPAC recommendations on support for graduate students could help with their time to degree. The unit may suffer on some measures due to the need to teach smaller studio classes, the need for additional space to support educational and creative goals, and the lack of data in Academic Analytics on creative work.

[2009 THDN ARPAC Final Report](#) (pdf)

Section B

Physical Sciences and Math - Prioritization Analysis and ARPAC Reporting

Record 15 of 50
Applied Math (APPM)

Analysis:

The Department of Applied Mathematics offers BS, MS and PhD degrees. It is the only department at a Colorado public university offering an undergraduate degree in Applied Mathematics. The department receives a gold rating in the academic prioritization metrics. A low number of degrees produced, particularly at the undergraduate level, keeps the department from scoring more highly. However, Applied Mathematics does rate highly in teaching effectiveness.

[2010 APPM ARPAC Final Report](#) (pdf)

Record 16 of 50

Atmospheric and Oceanic Sciences (ATOC)

Analysis:

The Department of Atmospheric and Oceanic Sciences offers the MA and PhD degrees, both of which are unique among Colorado public institutions. The department receives a white rating in the academic prioritization metrics but that is a strong distortion of the record of a department that produces a significant number of credit hours and has strong scholarly accomplishment. The white rating for the department is almost entirely because it does not have an undergraduate major. As such, it is not rated at all in teaching effectiveness, an area of evaluation that raises the academic prioritization metric for almost all other units. Not having majors also lowers the ATOC score in degree production and in income versus expenses (because half of income is distributed by major count).

[2010 ATOC ARPAC Final Report](#) (pdf)

Record 17 of 50

Astrophysical and Planetary Sciences (APS)

Analysis:

The Department of Astrophysical and Planetary Sciences offers the BA degree in Astronomy and MA and PhD degrees in Astrophysical and Planetary Sciences. These degrees are unique to the Boulder campus among other Colorado public institutions and the BA is the largest BA in Astronomy in the United States. The department receives a gold rating in the academic prioritization metrics, a rating that would be even higher if more majors were graduated. Astrophysical and Planetary Sciences rates highly in scholarly accomplishment and scores the highest score on undergraduate teaching effectiveness.

[2010 APS ARPAC Final Report](#) (pdf)

Record 18 of 50

Chemistry and Biochemistry (CHEM)

Analysis:

The Department of Chemistry and Biochemistry offers BA, MA and PhD degrees in both Biochemistry and Chemistry as well as a small PhD degree in Physical Chemistry that is a unique degree among Colorado public institutions. Chemistry is one of the premier academic programs on campus and receives a gold rating in the academic prioritization metrics. It scores second highest on campus in the scholarly achievement category and rates highly in teaching effectiveness in part due to the large number of non-major credit hours it provides. However, it is a resource intensive program with a relatively small number of degrees produced. As a result, in spite of its obvious excellence, Chemistry and Biochemistry receives a gold rating in the academic prioritization metrics

[2010 CHEM ARPAC Final Report](#) (pdf)

Record 19 of 50

Mathematics (MATH)

Analysis:

The Department of Mathematics offers BA, MA and PhD degrees. The Department receives a silver rating in the academic prioritization metrics. Mathematics is an essential discipline for any university, especially one with the STEM strengths of CU Boulder, and it scores highly in teaching effectiveness and cost efficiency. However, its overall score is hampered by a poor performance in the scholarly accomplishment category; that may in part be due to the fact that CU separates mathematic and applied mathematics while other universities combine them. ARPAC has recommended considering unifying the two departments. ARPAC made other recommendations to strengthen the unit's research profile, for instance, by supplying additional support for its post-doctoral program.

[2010 MATH ARPAC Final Report](#) (pdf)

Record 20 of 50

Physics (PHYS)

Analysis:

The Department of Physics offers BA, MA and PhD degrees. The department receives a gold rating in the academic prioritization metrics, buoyed by its excellent rating in

scholarly accomplishments where it scores third highest among departments relative to departments at other universities offering PhD degrees. However, Physics remains a relatively costly unit when expenses are compared to income produced, and in addition, Physics produces relatively few degrees, though it does teach a large number of non-Physics students.

[2010 PHYS ARPAC Final Report](#) (pdf)

Section C

Engineering - Prioritization Analysis and ARPAC Reporting

Record 21 of 50

Aerospace Engineering (AERO)

Analysis:

The Department of Aerospace Engineering Sciences offers BS, MS, and PhD programs. It is the highest ranked department in the College of Engineering and Applied Sciences on the academic prioritization metrics and one of the highest ranked departments on campus. Among its strengths are its scholarly accomplishments (it is in the top quartile on Academic Analytics data) and the effectiveness of its teaching, as scored by student satisfaction surveys. It is perhaps understandable that few non-majors take its courses, though ARPAC notes it has made recommendations on how to attract students into AERO courses.

[2011 AERO ARPAC Final Report](#) (pdf)

Record 22 of 50

Chemical & Biological Engineering (CHBE)

Analysis:

The Department of Chemical and Biological Engineering offers BS, MS, and PhD programs. It receives a gold rating on the Academic Prioritization metrics. Among its strengths are its scholarly accomplishments (it is in the top quartile on Academic Analytics data) and the effectiveness of its teaching, as scored by student satisfaction surveys. It could work to improve the number of its majors or the number of non-majors who take its courses. Given the nature of its teaching and research, it is a resource intensive unit, which explains its low scores on resource efficiency.

[2011 CHBE ARPAC Final Report](#) (pdf)

Record 23 of 50

Civil, Environmental and Architectural Engineering (CEAE)

Analysis:

The Department of Civil, Environmental, and Architectural Engineering offers BS, MS, and PhD programs. It receives a gold rating on the academic prioritization metrics. Among its strengths are its scholarly accomplishments (it is in the top quartile on Academic Analytics data) and the effectiveness of its teaching, as scored by student satisfaction surveys. It is perhaps understandable that few non-majors take its courses, though ARPAC notes it has made recommendations on how to attract students into its courses. This is, given the nature of its instruction and research, a resource intensive unit, which explains its low score on the sources and uses metric.

[2011 CEAE ARPAC Final Report](#) (pdf)

Record 24 of 50
Computer Science (CS)

Analysis:

The Department of Computer Science offers BS, MS, and PhD programs. It receives a gold rating on the academic prioritization metrics. Among its strengths are its scholarly accomplishments (it is in the second quartile on Academic Analytics data) and the effectiveness of its teaching, as scored by student satisfaction surveys. The unit's current low scores on student credit hours taken by non-majors may improve as the department grows the BA in Computer Science and as it pursues opportunities with the proposed College of Media, Communication, and Information.

[2011 CS ARPAC Final Report](#) (pdf)

Record 25 of 50
Electrical, Computer, and Energy Engineering (CEAE)

Analysis:

The Department of Electrical, Energy, and Computer Engineering offers BS, MS, and PhD programs. It receives a silver rating on the academic prioritization metrics, the only engineering department to score that far down the scale. The Academic Analytics score for scholarly accomplishments may not be reliable, given the department's broad reach. The department does a good job for its students, as measured by student surveys. It could improve on the percentage of student credit hours taken by non-majors. Given the nature of its teaching and research, it is a resource intensive unit, which explains its low scores on resource efficiency.

[2011 ECEE ARPAC Final Report](#) (pdf)

Record 26 of 50
Mechanical Engineering (MCEN)

Analysis:

The Department of Mechanical Engineering offers BS, MS, and PhD programs. It receives a gold rating on the academic prioritization metrics. Among its strengths are its scholarly accomplishments (it is in the second quartile on Academic Analytics data) and the effectiveness of its teaching, as scored by student satisfaction surveys. The unit should focus on moving metrics within its control, for example, by attracting more non-majors into its classes.

[2011 MCEN ARPAC Final Report](#) (pdf)

Section D **Biological and Environmental Sciences - Prioritization Analysis and ARPAC Reporting**

Record 27 of 50
Ecology and Evolutionary Biology (EBIO)

Analysis:

The Department of Ecology and Evolutionary Biology offers BA, MA and PhD degrees. In so far that many other public institutions in Colorado offer more general degrees in biology, the degrees offered at CU Boulder are unique. The department receives a gold rating in the academic prioritization metrics; in particular, it operates as a cost effective unit with strong scholarly achievement. BA recipients in Ecology and Evolutionary Biology rate the program highly in satisfaction and job preparation, but overall, the degree production in the department is relatively low.

[2012 EBIO ARPAC Final Report](#) (pdf)

Record 28 of 50
Environmental Studies (ENVS)

Analysis:

The Program in Environmental Studies offers BA, MA and PhD degrees. The program's MA and PhD degrees are unique among Colorado public institutions. The program receives a gold rating in the academic prioritization metrics. Noteworthy is the unit's resource efficiency, both in use of space and funds. Because the unit's graduate programs are new, the six-year average rate of graduate degrees granted is relatively low. That factor is likely to change in the future as the program moves to expand

enrollments in its professional masters degree. Environmental Studies receives only a mid-range score in scholarly accomplishment because it has too few peers to develop a comparative rating. There will be additional review of this program as discussions, recommended by ARPAC, move forward toward a proposed school of the environment and sustainability.

[2012 ENVS ARPAC Final Report](#) (pdf)

Record 29 of 50
Geography (GEOG)

Analysis:

The Department of Geography offers a BA degree and the only MA and PhD degrees in geography among Colorado public institutions. The department receives a black rating in the academic prioritization metrics and, in particular, rates as the top Geography department in North America in scholarly achievement—the only CU program that rates as the best. As a medium sized department, Geography only scores in the middle of all programs with respect to undergraduate and graduate degree production, but that does not keep the department from attaining a highly effective ranking in advancing the CU Boulder mission.

[2012 GEOG ARPAC Final Report](#) (pdf)

Record 30 of 50
Geological Sciences (GEOL)

Analysis:

The Department of Geological Sciences offers BA, MA and PhD degrees. It receives a gold rating in the academic prioritization metrics based because of the positive contributions of its research and teaching efforts. The department's rating suffers in part from a low level of degree productivity, particularly at the undergraduate level. Low degree productivity, in turn leaves Geological Sciences with a fairly low score in the income and expenses category in spite of having a cost per credit hour that falls just short of the black category.

[2012 GEOL ARPAC Final Report](#) (pdf)

Record 31 of 50
Integrative Physiology (IPHY)

Analysis:

The Department of Integrative Physiology was created in recent years by combining parts of EPO Biology with Physiology. The department offers the only BA, MA and PhD degrees in integrative physiology among Colorado public institutions. Academic prioritization metrics note the department as one of a few black rated programs. It performs exceptionally in resource efficiency because the department is popular as a major; moreover, students rate the education they receive strongly. ARPAC notes, however, the deplorable condition of the department's physical resources and has recommended that the campus tend to the significant space issues here.

[2012 IPHY ARPAC Final Report](#) (pdf)

Record 32 of 50

Molecular, Cellular, and Developmental Biology (MCDB)

Analysis:

The Department of Molecular, Cellular and Developmental Biology offers BA, MA and PhD degrees. The department receives a gold rating in the academic prioritization metrics, buoyed by its excellent rating in scholarly accomplishments. The department produces a large number of undergraduate degrees, and it scores well on satisfaction with the major and job preparedness factors.

[2012 MCDB ARPAC Final Report](#) (pdf)

Record 33 of 50

Psychology and Neurosciences (PSYC)

Analysis:

The Department of Psychology has a long and distinguished history as one of the strongest campus departments, a position confirmed by the academic prioritization metrics that give the department the top rank. It offers BA, MA and PhD degrees, but psychology degrees are offered at a public institution in the state. However, the qualities of the Boulder department are evident; it effectively educates enormous numbers of students, it is cost efficient and it remains one of the top psychology programs in the country in terms of scholarly output. ARPAC's recommendation of creating a separate undergraduate BA in Neuroscience in the department will only strengthen the excellence we find in Psychology.

[2012 PSYC ARPAC Final Report](#) (pdf)

Section E

Social Sciences - Prioritization Analysis and ARPAC Reporting

Record 34 of 50
Anthropology (ANTH)

Analysis:

The Department of Anthropology offers BA, MA and PhD degrees. The department's PhD degree is unique among Colorado public institutions and the undergraduate program is recognized as one of the largest Anthropology majors in the country. The department receives a gold rating in the academic prioritization metrics, held back from a higher rating only by its rather small size and relatively low degree production.

[2013 ANTH ARPAC Final Report](#) (pdf)

Record 35 of 50
Communication (COMM)

Analysis:

The Department of Communication offers BA, MA and PhD degrees. The PhD degree is unique among Colorado public institutions and is offered jointly with the program in Journalism and Mass Communication. The department receives one of the highest gold ratings in the academic prioritization metrics paced by a high level of resource efficiency. Communication is currently one of the largest undergraduate majors on campus, a fact that may limit both its ability to offer courses to serve students outside the major and the size of its graduate program. Plans for making Communication a cornerstone of a new College of Media, Communication and Information, as recommend by ARPAC, will build on the effectiveness of this important department.

[2013 COMM ARPAC Final Report](#) (pdf)

Record 36 of 50
Economics (ECON)

Analysis:

The Department of Economics, a "mainline" social science discipline, offers BA, MA and PhD degrees and receives a black rating in the academic prioritization metrics. As is the case for all of the large social science disciplines, Economics is a highly cost effective unit. A particular area of effectiveness for Economics is that it has the second highest number of graduate degrees awarded among the social science disciplines, and the department also scores well in scholarly achievement.

[2013 ECON ARPAC Final Report](#) (pdf)

Record 37 of 50
Ethnic Studies (ETHN)

Analysis:

The Department of Ethnic Studies offers the BA degree and, beginning in fall 2014, will begin enrolling students in the first PhD program in Comparative Ethnic Studies in Colorado. The department receives a silver rating in the academic prioritization metrics. This rating is likely to improve in the future pending successful implementation of its new doctoral program. The department rates highly in measures of undergraduate teaching effectiveness both on the senior survey and in its role in service teaching.

[2013 ETHN ARPAC Final Report](#) (pdf)

Record 38 of 50
International Affairs (IAFS)

Analysis:

The Program in International Affairs offers the BA degree and receives a gold rating in the academic prioritization metrics. International Affairs depends heavily on other departments, notably Political Science, Economics, History and Anthropology, in order to deliver its undergraduate program. It is not a tenure home to faculty, meaning that even faculty hired and budgeted in International Affairs are tenured in one of its associated departments. The unit excels in offering its undergraduate degree nevertheless. It is resource efficient and students rate their International Affairs experience highly. In its most recent ARPAC review, International Affairs requested permission to explore offering graduate degrees. ARPAC, however, did not recommend adding degrees to this program, suggesting instead that the unit maintain its focus on undergraduate education and explore a possible graduate certificate.

[2013 IAFS ARPAC Final Report](#) (pdf)

Record 39 of 50
Linguistics (LING)

Analysis:

The Department of Linguistics offers BA, MA and PhD degrees. The department's MA and PhD degrees are unique among Colorado public institutions. The department receives a gold rating in the academic prioritization metrics, but its rather small size and relatively small degree production lower these metrics. Linguistics is a strong performer in terms of efficient use of space for both teaching and research, but it receives a low score by graduating seniors in their evaluation of how well they are prepared for jobs.

[2013 LING ARPAC Final Report](#) (pdf)

Record 40 of 50
Political Science (PSCI)

Analysis:

The Department of Political Science a “mainline” social science discipline offers the BA, MA and PhD degrees. It receives a gold rating in the academic prioritization metrics. Typical for the large social science units it generates credit hours efficiently and produces a large number degrees, particularly at the undergraduate level. It serves as an important source of credit hours for students in other majors and is highly evaluated by its own students, but the unit is only at the median in terms of its scholarly accomplishment.

[2013 PSCI ARPAC Final Report](#) (pdf)

Record 41 of 50
Sociology (IAFS)

Analysis:

The Department of Sociology, a “mainline” social science discipline, offers BA, MA and PhD degrees. It receives a black rating in the Academic Prioritization metrics as the highest rated social science department and one of the highest overall on campus. Particular strengths include the department’s resource efficiencies with respect to both budget and space and its scholarly accomplishments. The department clearly benefits by its close ties to the Institute for Behavioral Science. For a department with so many strengths, however, it does not have a large graduate program.

[2013 SOCY ARPAC Final Report](#) (pdf)

Record 42 of 50
Speech, Language, and Hearing Sciences (SLHS)

Analysis:

The Department of Speech, Language, and Hearing Sciences offers bachelors, masters and doctoral degrees, including unique graduate degrees that are essential in the production of audiologists for the state. The department receives a gold rating in the academic prioritization metrics. Speech, Language, and Hearing Sciences is a relatively costly unit when expenses are compared to income produced. ARPAC criticized the department’s low PhD enrollments (as distinct from its Doctor of Audiology program).

The department scores well in teaching effectiveness due to high ratings on senior surveys.

[2013 SLHS ARPAC Final Report](#) (pdf)

Record 43 of 50

Women and Gender Studies (WGST)

Analysis:

The Program in Women and Gender Studies offers the BA degree. The program receives a silver rating in the academic prioritization metrics, held back from a higher rating by its small number of faculty and relatively low degree production. While it does not offer a graduate degree it does offer a successful certificate program and ARPAC has proposed that this certificate be developed into graduate degree offerings. Students in other majors account for ninety-five percent of the credit hours taught by the program.

[2013 WGST ARPAC Final Report](#) (pdf)

Section F

Professional Schools - Prioritization Analysis

Record 44 of 50

Leeds School of Business (BUSN)

Analysis:

The Leeds School of Business offers BA, MS, MBA and PhD degrees. The PhD degree is unique among Colorado public institutions. Business receives one of the highest Gold ratings in the academic prioritization metrics in large part due to the large number of degrees, both undergraduate and graduate, produced. The school's effectiveness at undergraduate teaching has been hampered by the inability of non-business students to take courses in the business curriculum. However, this problem should move toward resolution with the growth of a new and popular business minor. Scholarly accomplishment is only at the median of peer units. It is currently undergoing program review by ARPAC.

2014 Business ARPAC Final Report (forthcoming)

Record 45 of 50

School of Education (EDUC)

Analysis:

The School of Education offers the MA and the PhD; it is the only education school in a Colorado public university to offer these degrees. It is the third highest ranked unit on the academic prioritization metrics. It is ranked in the top quintile for scholarly accomplishments. It does well in degree production. It is currently undergoing program review by ARPAC.

2014 Education ARPAC Final Report (forthcoming)

Record 46 of 50
Law School (LAW)

Analysis:

The Law School is the state's only public law program. It receives a silver ranking on the academic prioritization metrics. Of course, the law school does not teach undergraduate students, so it has no score for undergraduate teaching effectiveness; it has provided the campus with results of a student engagement survey that indicated that CU's law school did well in comparison to peers. As a full service law school that does not serve undergraduate students, it also does not score well on resource efficiency (perhaps because a significant amount of its space is devoted to a public law library), but it has in recent years improved its income and expenses ratio; it scores highly on degree production. Academic Analytics does not currently provide reliable data on law schools. It is currently undergoing program review by ARPAC.

2014 Law ARPAC Final Report (forthcoming)

Record 47 of 50
College of Music (COM)

Analysis:

The College of Music offers the BA, the MA, the PhD and the DMA; it is the only Colorado public college of music to offer these doctoral degrees. It receives a silver ranking on the academic prioritization metrics. While it scores highly on undergraduate teaching effectiveness and does well on degree production, it does not score well on resource efficiency owing to a student-intensive arts degree program that requires performance and other spaces. While Academic Analytics does not yet measure artistic work, ARPAC has observed from other measures that the College of Music is considered among the top fifteen music programs nationally.

[2009 Music ARPAC Final Report](#) (pdf)

Section G

Not recently or previously reviewed:

Record 48 of 50

ATLAS

Analysis:

ATLAS offers an MS in Information, Communication, and Technology in Development and a PhD in Technology, Media, and Society; both degrees are unique offerings among Colorado public institutions. The unit receives a red rating in the academic prioritization metrics. This low rating is based on the fact that ATLAS does not have an undergraduate program and grants few graduate degrees. ARPAC has never undertaken a program review of ATLAS. ATLAS was moved under CEAS for degree administration purposes and will be reviewed by ARPAC within the next three years.

Note: NO REVIEW REPORT

Record 49 of 50

Environmental Design

Analysis:

The Environmental Design Program offers a bachelors degree with tracks in architecture, landscape architecture, planning and design. While this is the only B-ENVD offered in Colorado, the separate tracks are offered at other institutions. The program receives a silver rating in the academic prioritization metrics, but this rating is likely to fall in the future as the unit's highest score—degree production—is sure to decline as majors have decreased. Environmental Design receives the lowest score in teaching effectiveness among units with undergraduate majors and it is an expensive unit both in terms of space use and income versus expenses. Environmental Design was reviewed in a special process by ARPAC when its operation was moved from UC Denver to Boulder, however, few of the recommendations of that transfer have been put in place. There will be additional review of this program as discussions, recommended by ARPAC, move forward toward a proposed school of the environment and sustainability.

Note: NO REVIEW REPORT

Record 50 of 50

Journalism

Analysis:

The faculty in Journalism and Mass Communications offer the BA and MA; they are the only unit in a Colorado public university to offer the MA. They receive a gold rating on the academic prioritization metrics. They are in the second quintile on scholarly

accomplishments. They do well on surveys of student satisfaction, but given their former status as an independent school, they do not attract many students from outside their degree programs. The School of Journalism and Mass Communication was discontinued in 2011. Its programs are part of the proposed College of Media, Communication, and Information where ARPAC expects them to perform even more strongly on the academic prioritization metrics.

NOTE: NO REVIEW REPORT

D. Contextual Data, examples