

College of Science

Cascaded Plan – Waypoint 1

July 1, 2016 – June 30, 2019

Long term focus which supports the University of Idaho Strategic Plan:

The College of Science will play a critical role in the university's advance to Carnegie R1 (Highest Research Activity) status. Indeed, three of the four correlates of research activity used to determine R1 status (as discussed in the relevant [Carnegie document](#)) will depend on significant contribution from College of Science activity:

- Science and Engineering research expenditures
- Science and Engineering staff (postdoctoral appointees and non-faculty research staff with doctorates)
- Doctoral conferrals (specifically in STEM fields)

Ultimately, it is growth in our research and graduate education programs that will provide the boost to these correlates. Such growth, however, cannot occur in isolation. Indeed, the growth in our graduate degree programs must be accompanied by (and in fact will follow as a consequence of) growth in our research programs. And growth in the research program will require new resources that can only come through growing our undergraduate enrollments. Thus, our strategic planning with an aim towards the pinnacle of contribution to the R1 goal must build from a broad base of activities related to the goals set out in the University of Idaho Strategic Plan and Process.

In the parameters of this cascaded plan we choose to address four of the five identified priority institutional metrics: terminal degree production, headcount enrollment, the state “go on” rate, and the Chronicle’s “Great Colleges to Work For” score. We will focus priority during this first three year waypoint period on headcount enrollments and the “Great Colleges” score by implementing strategies for recruitment, retention, and building employee morale. But we must of necessity also begin earnest work on initiatives aimed at growing (and planning for growth in) our graduate and research programs. The long chain of accomplishments that must be brought to pass in order to reach our goals on terminal degrees and research expenditures (both, as mentioned above, crucial to the university’s R1 goal) necessitates that we lay that foundation now.

Enrollment: With the increased emphasis and interest nationwide in STEM degrees, we believe that the College of Science is well positioned to contribute to the university’s enrollment goals. We establish ambitious but achievable targets for growth over the next nine years, and have developed a set of strategies by which we will work toward those goals for the first waypoint period – see that section of this cascaded plan.

“Great Colleges to Work For” survey score: Recognizing the importance of team building in making progress on all of our goals, we make this area a priority during the first waypoint period. We have developed several strategies aimed at improving the working atmosphere for our faculty and staff, providing the support and environment that shows esteem for their work, and acknowledging their efforts. Discussion of these initiatives is given in that section of this cascaded plan.

Terminal Degrees: While we set targets for this metric through the nine year planning period, those targets should not be viewed in isolation, but rather as part of a much broader plan for growing research and graduate education within the college. Intertwined with the targets for terminal degree production are the following two metrics that we plan to track.

1. **Research expenditures:** Our goal is to grow research expenditures from grants by College of Science faculty to \$18 million by 2025 (\$16 million by the 2019 waypoint). The 2014 baseline for the college is just over \$12 million, but substantial growth over that baseline has already occurred.
2. **PhD program enrollments:** Recognizing that a PhD graduation is the culmination of a long process, we believe it will be important to have goals we can track relative to building the pipeline for that process. The number of PhD graduates we will have by 2021 and 2022 has already largely been determined, so while nine years sounds like a long period for planning, it is definitely *not* long with respect to the metric of PhD production. We believe we will be able to measure and show progress more effectively in this closely related metric of enrollment in our PhD programs. Several strategies will contribute to our plan for growth in these programs.
 - We do not expect a dramatic change in the number of available funded TA positions, and support is an expectation for graduate study in the sciences. But the growth in funded research mentioned above will lead to an increase in funded RA positions.
 - Also contributing to the goal of producing more PhD graduates will be efforts to build on the quality of graduate students we admit. A major obstacle historically has been non-competitive financial offers for TA positions at UI. While that problem cannot be entirely addressed at the college level, we will undertake several mitigating initiatives, such as redirecting college-level graduate scholarship funds to use in recruiting new students.

Go-on measure: We also plan activities and new initiatives that will contribute to the university’s efforts at improving the state of Idaho’s “go on” rate. We plan to focus on programs aimed at students in grades 7 through 11 who are “on the edge” with regard to predicted college attendance. We will coordinate efforts with the UI centers to reach out to school districts to support programs such as Gear Up or AVID, and we set targets for numbers of students we will reach through these programs.

Long term institutional metrics (page 6 of university strategic plan):

University Performance Measure	Focus for unit? (Y or N)	University Baseline	Unit Baseline	Unit Target for 2025	Summary Tactics / Comments
Terminal Degrees	Y	275	18	25	<ul style="list-style-type: none"> We will grow enrollment in our PhD programs as a side-effect of increasing our funded research projects – more funded RA positions will mean more graduate students. We also will work to improve the quality of our graduate student cohorts through improved recruiting measures and enhanced TA and RA offers.
Societal Impact (Go On measure)	Y	TBD	–	–	We will work with school districts around the state to promote college as a goal for students in middle and early high school grades.
Enrollment	Y	11,372	904	1200	<ul style="list-style-type: none"> Emphasize growth in transfer student numbers by working with two-year schools. Continue recent success in improving retention. Develop and promote Medical Science BS and a post-bachelor medical preparation program.
Equity Metric	N	75%			
“Great Colleges” Survey	Y	3 rd Group	–	–	College initiatives will be implemented immediately aimed at creating a supportive work environment, demonstrating esteem for the value of employee efforts, and recognizing employee excellence.

Waypoint 1 goal(s) and objective(s), institutional metric(s) (from page 6) and tactics (short narrative description):

As discussed in the “long term focus” narrative, we will begin work on initiatives in all four of the goals from the UI Strategic Plan in order to contribute to four of the priority institutional metrics. Our emphasis during this waypoint period will be on enrollment and workplace environment, though we will additionally put into effect measures that will lay the groundwork for progress on growing our research and graduate programs as well as contribute work to improving the state Go On rate.

It should be noted that none of the initiatives outlined below will require new or increased university resources. Rather, costs for carrying out these programs will be covered through redirecting college resources.

Enrollment initiatives:

1. We will build our transfer student numbers by increasing our visibility at CWI, NIC, CSI and other regional schools. We will do this through
 - a. Hosting faculty and students from these schools here on campus.
 - b. Turn the faculty at these schools into Vandals! We will create opportunities for faculty at CWI, NIC, and CSI to take UI coursework to enrich their background. This may take the form of intensive short courses offered on site at or near those schools, or more ambitiously a program of “mini sabbatical” opportunities for their faculty to come to Moscow for a semester. (The college would facilitate help with replacing the lost teaching capacity as well as provide a living allowance for the visiting faculty member.)
 - c. Getting our faculty out to these schools for presentations.
 - d. Establishing seamless transfer agreements.(Goal 3, Objective A)

2. We will also grow our enrollment through continued efforts at improving retention. This will be accomplished by continuing our recent successes in building a Student Services division within the college. This will include establishing a Student Services Center located adjacent to the college office. We will continue to build on the improvements we have made to advising (through planning and coordination by our student services team), particularly for first and second year students and students who are struggling academically. This improvement in student services and use of intensive advising intervention for struggling students will impact both retention and graduation rates. (Goal 3, Objective C)

3. We will increase the percentage of students participating in high impact educational experiences by:
 - a. Continuing to grow our undergraduate research opportunities through work with the Office of Undergraduate Research.
 - b. Making greater use of undergraduate majors as Learning Assistants in our introductory courses.
 - c. Working to incorporate high impact practices into courses, particularly our lab courses.These practices will lead to a more engaged student population and as a result, better retention and graduation rates. (Goal 3, Objectives B and C)

4. We will introduce a Medical Science bachelor's degree (2017 catalog) as well as a post-bachelor's program for medical school preparation. Both of these have anticipated positive impact on enrollment, and we will market both with new recruiting materials. (Goal 3, Objectives A and B)

Workplace environment initiatives:

The initiatives below are intended to create more of a sense for our employees that their efforts are valued and supported by leadership. We aim to emulate college-wide the “family atmosphere” that prevails already in some areas such as faculty participating with IBEST. As with that group, we want our employees to choose to stay at Idaho (despite the availability of opportunities elsewhere) because of a sense of being part of something larger – a team. We also aim to see that the contributions of our staff employees are recognized and rewarded – an area in which our practices have until now been inadequate.

5. We will improve the use of available endowment funds to support faculty travel, equipment purchase, etc. (Goal 4, Objective C)

6. We will introduce new recognitions (COS Staff Outstanding Service Awards, COS Outstanding Teaching Award) to supplement our already-existing Early Career Award and Distinguished Faculty Award. We are also investigating adding an award for encouragement of student engagement (advising, club supervision, etc.) which would both enhance recognition of effort as well as incentivize activity that contributes to student retention. All of these recognitions will include a monetary component and will be awarded (along with our rotating faculty fellowships, which previously have not been given sufficient visibility) at

a new spring college event. In addition to being announced at the awards event, these recognitions will be publicized through university communications (Register) and the college website. (Goal 4, Objective B)

7. We will continue, emphasize, and communicate the “decentralized” approach by which our college has always operated, especially in the return of research dollars to departments and investigators. (Goal 4, Objective C)
8. We will initiate regular “Staff and Faculty Gatherings” as an opportunity for employees to broaden connections across the college and thus build a more cohesive atmosphere. We will make particular effort to involve staff employees. (Goal 4, Objective B)

Goal 1 initiatives:

As mentioned in the introductory narrative, we believe it is imperative that we begin now to lay the foundation for growth in our graduate and research programs in order to have the needed impact on the metrics used in R1 calculation.

9. We will emphasize increased external funding (research expenditures being one of the metrics in Goal 1 of the university plan) and in so doing will increase the number of funded RA positions within the college. Our goal is to reach \$16 million in expenditures generated by COS faculty by 2019, \$17 million by 2022, and \$18 million by 2025. Accordingly, we will increase enrollments in our PhD programs from the 2014 baseline of 110 to 120 in 2019, 130 in 2022, and 140 in 2025. (Goal 1, Objectives B and C)
10. We will implement practices to improve the quality of new graduate students we attract. This will in turn lead to a greater share of students in our PhD programs and an increase in the number of students completing terminal degrees. Among the ideas we will implement are:
 - d. We will establish and promote college-level scholarships and fellowships to supplement our financial offers to especially strong prospective new graduate students.
 - e. We will offer to cover the application fee for highly qualified applicants to our graduate programs.(Goal 1, Objective B)
11. We will establish a mentoring process to encourage graduate students to submit applications for NSF pre-doctoral fellowships, with the aim of having 1-2 students funded annually by these fellowships. (Goal 1, Objective B)

Go On rate initiative:

12. We will support STEM events with school districts and will make specific effort to help districts establish AVID (Achievement Via Individual Determination) programs aimed at motivating at-risk students to prepare for college beginning in middle school grades. (Goal 2, Objective A)

Waypoint 1 Metric Targets for Unit:

Initiative Number	Selected Performance Measure (from Page 6 of university strategic plan)	Unit Baseline Value	July 2017	July 2018	July 2019	Comments
9, 10, 11	Terminal Degrees	18	18	19	20	Growth in this metric is nearly impossible to plan in a three year time period, as one must first enlarge the pipeline. We have established goals to accomplish that initial task.
12	Go On measure	--	-	-	-	We plan to increase the number of students reached by “go on” related programs sponsored by the college to 500 per year by 2019.
1, 2, 3, 4	Enrollment	904	930	970	1000	Our efforts for this first waypoint period will focus on transfer students, improving retention, and marketing new curriculum offerings in medical sciences. Our

						goal is to raise enrollment to 1200 by 2025.
5, 6, 7, 8	"Great Colleges" survey	—	—	—	—	