REPORT TO FACULTY SENATE

FROM: President Robert Robbins  http://president.arizona.edu/

DATE: April 4, 2022

ACCOMPLISHMENTS:

Breaking Ground on new Andrew Weil Center for Integrative Medicine
- In mid-March we broke ground on construction for the new Andrew Weil Center for Integrative Medicine. Our university is home to the first program in integrative medicine, and it is fitting that we are giving this program a permanent home where it can grow and expand.
- With this new center, our university will continue to be the epicenter of integrative medicine under Dr. Weil’s leadership. We know that as the average human lifespan gets longer, learning and sharing ways to sustain quality of life will become increasingly important.

South by Southwest Conference: Wonder House Exhibition
- South by Southwest (SXSW) is an internationally recognized conference known for the convergence of tech, film, music, education, and culture. This year, UArizona hosted the Wonder House exhibition which festival organizers described as the most interesting, unexpected, and engaging experience offered at the conference.
- Over three days, more than 9,000 attendees engaged with the Wonder House which offered more than 20 expert discussion panels on topics including climate change, arts and architecture, health and medtech, and much more.
- In addition to a robust speaker series that brought the unique scholarship of our university to the forefront of an international conference, the Wonder House also featured the Stellarscape premiere, an immersive multimedia experience, virtual reality peeks into the Andrée Expedition 360 Opera house, multiple UArizona telescopes, and several experiential art installations.
- The Wonder House exceeded our goals of creating connections and highlighting the University of Arizona as a place for innovation and creativity. We look forward to returning to the renowned conference in 2023.

Deepening our Relationship with Diné College
- The University of Arizona signed an MOU with Diné College with the goal of continuing to expand a framework of collaboration between our institutions in the areas of grants management, research administration, and training. I am grateful to SVP Levi Esquerra for continuing to deepen our collaborative relationships with tribal institutions.

Continuing to Grow the Research Enterprise
- In collaboration with Government and Community Relations, Research, Innovation and Impact has secured more than $250M in Congressional appropriations to advance the University’s research interests. In particular, the efforts of Amy Mainzer, Principal Investigator for the NEO Surveyor Mission, and her team will benefit from an appropriation of over $143M.
- We have broken ground at the UA Tech Park at The Bridges on the new “Mission Integration Laboratory” to expand our capacity for stratospheric sensing and payload/systems integration. The building should be open for occupancy in October 2022.
- The National Institute for Civil Discourse (NICD) received a $500k grant from the Hewlett Foundation to support bipartisan efforts focused on voting legislation.
Dear Fellow Senators:

As Chair of the Research Policy Committee, I would like to share some of our committee’s work.

In an attempt to gain greater understanding, we have been exploring the flow and distribution of Indirect Cost (IDC) dollars, also called Facilities and Administrative Costs (F&A).

Independently from RPC, the Steering Committee at the recommendation of the Stakeholder Advisory Group (for the AIB) convened a working group named: “AIB Facilities and Administrative Costs (F&A) Working Group”. With their permission, we have pasted their report from December 1, 2021 on the following pages.

Separately, one of our members, Dr. David Cuillier, did some investigation and his report is also pasted at the end of this report.

The AIB Facilities and Administrative Costs (F&A) Working Group addressed five questions (see Executive Summary, page one).

The RPC agrees with its conclusions and recommendations for all five – except #4:

“Should Principal Investigators receive a direct distribution of F&A from RII that bypasses the colleges? Recommendation: No.”

It is the RPC’s belief that this does not appropriately address one of the AIB Guiding Principles: Reward Positive Research Outcomes and incentivize researchers. It also goes against the principles of Faculty Governance. We are also troubled that at least 10 of the 15 group members are budgetary people in Dean’s offices, only one is from RII and none is a non-Dean faculty member. This does not appear to be a representative group for the Principal Investigators about whom this recommendation is made. We are not suggesting that the entire IDC go to the PI. We ask the Senators to acknowledge that PIs often do not have discretionary funds to start pilot projects, pay students, or even for something as small as a new printer or other materials & supplies (not allowed on Federal budgets). An agreed upon percentage would benefit the PI and help incentivize ongoing research productivity.

We move that at the first Faculty Senate meeting of the new academic year (AY2022/2023): “Principal Investigators receive a direct distribution of F&A from RII.”
I. Executive Summary

The F&A Working Group was convened to review funding of research support activities and RCM F&A distribution models, with the goal of incentivizing research, supporting the growth of research infrastructure, and aligning with the AIB Guiding Principles: 1. Ensure Adequate Funds Centrally to Meet Institutional Strategic Opportunities; 2. Reward Positive Research Outcomes; 3. Build Innovation and Interdisciplinary Approaches; 4. Reduce Complexity.

The Working Group met seven times between the beginning of July and October 2021 to consider the following questions related to research infrastructure funding and F&A distribution:

1. Should the RII Operating Budget scale with changes in research activity?
   
   **Recommendation**: Yes.
   
   - The RII Operating budget should scale annually with research activity as measured by changes in sponsored MTDC using a three-year average.
   - The RII operating budget should continue to be funded by the Strategic Budget Allocation through Revenue Sharing (SBA) mechanism and not through direct allocation of F&A returns.

2. Should the RII Research Development Fund fluctuate with changes in research activity?

   **Recommendation**: Yes.
   
   - Allocations to the Research Development Fund should scale with annual changes in F&A return to the University.

3. Should Facilities charges that are supported by F&A (support unit space charges) fluctuate with changes in F&A returns?

   **Recommendation**: No.
   
   - Support for facilities costs should not fluctuate with annual changes in F&A revenue, although they should scale with research activity over a multi-year time-period to accommodate long term growth in research support operations.

4. Should Principal Investigators receive a direct distribution of F&A from RII that bypasses the colleges?

   **Recommendation**: No.
   
   - Decisions about F&A allocation, including incentivizing distributions to faculty, are best made at the college level.

5. Should the F&A returns to colleges continue to be determined using a “look back” to FY15 as a Base Year, should a new Base Year be selected, or should returns fluctuate each year with changes in F&A returns (no Base Year)?

   **Recommendation**: No Census Reached.
II. Background and Discussion

The transition from RCM to AIB provides an opportunity to review research support units are funded and how F&A, (also commonly referred to as Indirect Cost Recover [ICR]) is being used to support research infrastructure and incentivize research activities. It’s important to clarify that F&A is not a revenue source but rather reimbursement from research sponsoring agencies for the portion of the real costs of conducting research that cannot be reasonably apportioned to a specific sponsored project. Although a portion of F&A returns to the university is used to fund those support activities from which the costs derive, F&A also supports a variety of incentivizing activities including allocations to colleges. The AIB F&A Working Group addressed the principles for funding research support activities and potential changes to how F&A is currently being used under RCM. The Working Group struggled with having an incomplete understanding of institutional funds flows and the resulting lack of clarity about how different options for reapportioning of F&A to specific uses might lead to shortfalls elsewhere.

The following discussion provides more detailed background information for each of the recommendations summarized in the Executive Summary above.

1. Should the RII Operating Budget scale with changes in research activity?

**Working Group Feedback:** There was unanimous consensus that the RII operating budget should scale with research activity as reflected by F&A returns, but that a direct F&A allocation should not be used to fund the RII operating budget (0 Yes, 9 No, 1 undecided/not participating).

**Background:** In the current RCM model, a tax on all sources called the “Support Center Expense Recovery” (SCER) has been used to support all non-college activities including RII operations and infrastructure, research facilities, the Research Development Fund, sponsored award administration, research core facilities, research centers and institutes, and research administration broadly. F&A retained centrally represents one component of the SCER (in AIB the SCER is called Strategic Budget Allocation through Revenue Sharing [SBA]).

RII Operations funds increased by roughly $3M during the first three years of RCM, were held flat for three years and saw a $4.3M decline in FY21 in alignment with most support units on campus.

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<th>2016</th>
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<th>2018</th>
<th>2019</th>
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*Figure 1: RII Operating Base Budget FY2016-FY2021*

**Advantages of scaling RII operating budget with research activity:** Aligns with guiding principles as stated – growth in F&A returns would result in growth in support for RII Operations. This approach could incentivize optimizing RII Operations funds management to drive research expenditure growth and overall UA research performance.

**Disadvantages:** Declines in F&A returns could result in reduced RII Operations funds available for investment, perhaps precisely when they would be needed to spur new activity.
2. Should the RII Research Development Fund scale with changes in research activity?

**Working Group Feedback:** 6 YES, 1 NO, 3 members undecided or not participating

**Background:** UArizona research expenditures (MTDC) have increased 20%\(^1\) from 2015-2020 with little or no adjustment to research operations budgets or development programs and no institutional mechanism for scaling budgets with increasing research activity. To date, changes to the Research Development Fund and RII operations budget have relied on leadership decisions without regard to changes in research activity. As we transition from RCM to AIB, it is generally agreed that mechanisms are needed to ensure that support for research operations and development programs scales with changes in research activity.

Leadership decisions during the first few years of RCM resulted in increases to the Research Development Fund of approximately $875,000, though the budget has not changed since FY19 and is currently $13.55M (Figure 2). As core operations costs have increased and budget challenges have arisen (for example the COVID-19 pandemic), RII leadership also shifted some RII operation costs to the Research Development Fund as a tool for managing budget reallocations/reductions. As part of the FY22 All Funds budget allocation process, $3.24M was provided to RII to so that these costs could be moved off the Research Development Fund, restoring the entire $13.55M for direct investment in research growth.

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<th>BUDGET OWNERSHIP</th>
<th>Pre-RCM/RCM</th>
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<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
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<th>FY21</th>
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*Figure 2: Research Development Fund Budget FY2015-FY2021*

**Advantages:** This recommendation aligns with AIB Guiding Principle 1) *Ensure Adequate Funds Centrally to Meet Institutional Strategic Opportunities*, and 3) *Reward Positive Research Outcomes* by ensuring that the Research Development Fund increases along with growth in overall research activity. It could also optimize management of the Research Development Fund to drive research expenditure growth and overall UArizona research performance.

**Disadvantages:** Declines in F&A returns will lead to a reduction in the Research Development Fund precisely when they might be needed to spur new activity.

3. Should Facilities costs supported by F&A (support unit space charges) fluctuate with annual F&A returns?

**Working Group Feedback:** 0 YES, 9 NO, 1 member undecided or not participating

The Working Group’s position is that funds to support unit space charges should not fluctuate annually with changes in F&A because this could be disruptive, though support should scale in the longer term as needed to support changes in research activity.

**Background:** In RCM all physical space allocated to colleges is supported by a flat $/sq. ft charge applied to all occupied space, while support unit space occupancy charges are recovered through the above referenced SCER tax on multiple sources, including F&A. Any long term increases in support unit occupancy of research space would be paid from the SCER (SBA in AIB).

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\(^1\) FY15 MTDC $203.99M and FY20 MTDC $244.92M per UAccess Analytics RCM.RCM Sponsored F&A Report
Advantages: Might provide RII with more flexibility to respond to near term increased space needs.

Disadvantages: Support unit space needs are relatively fixed over the short term and so annual fluctuations tied to F&A return could be disruptive should F&A revenues decline.

4: Should Principal Investigators receive a direct distribution of F&A from RII that bypasses the colleges?

Working Group Feedback: 2 members felt that there should be Direct PI F&A distribution from RII; 6 members were against a direct distribution because they felt that decisions regarding PI distributions should be made at the college level; 2 members were undecided or did not participate.

This issue led to considerable discussion among Working Group members. Most members felt that a direct distribution from RII unnecessarily bypassed college dean authority and failed to accommodate the diversity of college cultures and financial models. The two members who voted for a central distribution felt that their colleges were not handling F&A appropriately and that central distribution was a mechanism to directly support faculty.

Background: In RCM, the college dean has sole discretion to determine how F&A distributed to the colleges is utilized. Each college currently has its own process, reasoning, and approach to distributing or not distributing F&A earnings to individual PIs.

Advantages of Direct PI Distribution: Could be seen as aligning with Guiding Principles 3 – Reward Positive Research Outcomes and 4 – Build Innovation and Interdisciplinary Approaches. Potentially creates an incentive for PIs to actively seek new funding and to minimize F&A rate reductions or waivers since they will be a direct beneficiary of F&A returns. Potentially aligns PI research interests with university goals of growing research expenditures.

Disadvantages of Direct PI Distribution: RCM and AIB are college-level funding models, and a direct PI distribution would bypass college/dean authority and represent a significant shift in philosophy. A direct distribution might also reduce strategic alignment of use of funds with university and/or college level strategic goals. It also places the strategic investment of these funds in a more distributed framework, which could be seen as a violation of Guiding Principle 1 – Ensure Adequate Funds Centrally to Meet Institutional Strategic Opportunities. Management of distribution to ensure proper accounting would add administrative overhead to the F&A distribution process.

5: Should the F&A returns to colleges continue to be determined using a “look back” to FY15 as a Base Year, should a new Base Year be selected, or should returns fluctuate each year with changes in F&A returns (no Base Year)?

Working Group Feedback: 2 YES, 8 undecided or not participating in vote.

Background: Two overriding philosophies were adopted going into the first year of RCM with respect to budget changes: the concepts of “hold harmless” and that RCM should not change budget or accounting practices. This first principle of “hold harmless” meant that college budgets would not significantly change at the outset of RCM and that budget allocation decisions made before RCM would not be immediately undone but could be redressed over time. This approach ensured that RCM would not be the singular cause of the collapse of a given unit’s operational budget. The philosophy of not changing accounting or budgeting practices meant that the 25% F&A returns colleges received prior to RCM would continue (the “true up”), while a new process would begin of “looking back” to the first year before RCM started (FY15), also called the Base Year. All colleges began RCM with 25% “budget ownership” of their FY15 F&A returns.
Subsequent increases in F&A returns above their FY15 “base year” amount were proportionally split between the college and support unit budget authority at a rate of 87.616% to colleges and 12.384% to support units for FY16-20 and beginning in FY21 87.216% to colleges/12.784% to support units.

Although consistent with the RCM principle of allocating maximum resources to the revenue generating colleges, in time this allocation approach resulted in significant disparities between colleges in the percent of F&A budget authority, because if a college was at a “low water mark” for F&A returns in FY15 and had a lot of upside potential then it received significantly more budget authority for your F&A returns than if FY15 was a high-water mark year.

As two concrete examples, the Eller College of Management had F&A returns in FY15 of ~$0.75M and therefore had F&A budget authority in FY15 of ~$0.19M (25%). Their F&A returns declined to ~$.483M in FY21 and so now have negative F&A budget authority of ~$0.052M (-11%). On the other hand, the Arizona Health Sciences Centers and Divisions had F&A returns in FY15 of ~$4.58M and corresponding budget authority of ~$1.15M (25%). Their F&A returns increased to ~$13.59M in FY21 and so their current F&A budget authority is ~$9M (66%).[1]

This approach has increased overall F&A budget authority to colleges since the beginning of RCM from 25% in FY15 to 41% in FY21, corresponding to $22.6M in new F&A allocations to colleges. In contrast, funds used to support the Research Development Fund, research related facilities costs, and general institutional support costs, including RII Operations, declined from 75% budget authority of F&A funds to 59%, corresponding to just $3.6M of new investment in these centralized costs. Continuing this F&A allocation approach is in apparent violation of AIB guiding principles 1. Ensure Adequate Funds Centrally to Meet Institutional Strategic Opportunities 3. Reward Positive Research Outcomes, and 8. Reduce Complexity.

Due to challenges in understanding the complexities of funds flows, and lacking information about the total current central support unit shortfall, the Working Group struggled to determine how best to realign the current F&A budget distribution mechanism. Lacking this information, and how other AIB related changes might alter central budget authority, the Working Group felt that they could not rationally identify an optimal method for realigning the current F&A distribution method to meet overall institutional support unit needs.

Advantages of Keeping the FY15 Base Year: F&A budget authority “earned” in RCM would not require reconsideration in other parts of the AIB model so long as taxation/revenue sharing was held relatively constant/similar to what it is in RCM. Keeping the RCM Base Year approach would mean changes to the F&A portion of the AIB model would have minimal impact on the Strategic Budget Allocation amounts required to keep budget authority of the RCM “winners” intact so long as taxation/revenue sharing was held relatively constant/similar to what it is in RCM.

Disadvantages of Keeping the FY15 Base Year: It’s unclear how the AIB model could move away from decisions made by past leadership going into the adoption of RCM. Significant changes in revenue sharing/tax in AIB to align with Guiding Principle 1 (Ensure Adequate Funds Centrally to Meet Institutional Strategic Opportunities) would essentially create a new Base Year for “taxation” that is distinct from the Base Year for calculating budget authority which would require significant adjustments in other parts of the model, particularly in the Strategic Budget Allocation for these units. The Base Year look-back essentially ensures RCM revenue sharing needs will remain the same. If revenue sharing is to align with Guiding Principle 1 then removing the Base Year concept altogether and adjusting the Strategic Budget Allocation for colleges to accommodate for this change would make more sense.

Advantages of Changing the Base Year to FY22: Resets the budget authority calculations to align with the implementation of the AIB model. F&A budget authority “earned” in RCM would not require reconsideration in other parts of the AIB model even if there were major changes in taxation/revenue
sharing to accommodate for Guiding Principle 1. Budget authority “earned” both prior to RCM and during the RCM years would be “baked into” the F&A budget authority calculated in AIB.

Disadvantages of Changing the Base Year to FY22: Inequities of budget authority “earned” in RCM would remain, not fundamentally addressing the low-water mark/high-water mark disparities outlined in the background section. Eller would continue to retain ~11% of their earned F&A as budget authority while AHS Centers & Divisions would continue to retain ~66% of theirs. With assumed higher revenue sharing percentages in AIB, the majority of incremental changes in FY23 and beyond would not accrue to colleges, essentially ensuring this budget authority would not materially change with changes in F&A, likely undermining any incentive structure that remains in AIB. Stated another way, a combination of a new base year and higher revenue share percentages means F&A budget authority would likely not change much in future years even with significant changes in F&A returns.

Advantages of Eliminating the Base Year Concept: Allowing F&A budget authority to fluctuate each year based on a fixed % of returns (pre-RCM model) drastically reduces the complexity of the AIB model and is in close alignment with Guiding Principle 8 – Reduce Complexity. It allows for an even playing field for all colleges and does not “bake in” inequities or disparities from prior years. This approach eliminates issues above related to high-water/low-water mark F&A earnings years and allows all colleges to participate equally and proportionally. It allows for the realignment of fund and budget authority that was obfuscated in RCM with the “true-up” methodology and allows for much more transparency into the reporting of F&A funds flow, further supporting Guiding Principle 4. It would allow for the realignment of budget authority with the implementation of a new budget model and would allow for and support Guiding Principles 1 & 3.

Disadvantages of Eliminating the Base Year Concept: This methodology would require realignment in other parts of the AIB model, specifically Strategic Budget Allocation would need to be assigned to units who had benefited significantly from the RCM Base Year methodology to minimize significant budget authority change going into FY23. Of note, since SBA will need to be reassigned to accommodate for other significant model changes such as the changes in SCH weighting, Course Owner assignment, and Degrees Awarded, adding to the list of SBA adjustments for F&A is likely not a significant or impactful disadvantage.

There has traditionally been some alignment between the actual incurred F&A costs and the distribution of F&A. Although this relationship has changed since the implementation of RCM, with only 59% of F&A funds flowing to central support units (where most of our actual F&A costs are incurred), removing the Base year without also changing the SBA share % could result in a large portion of F&A funds flowing to colleges which is not where the actual F&A costs supporting those funds were generated. This could be remedied in part by significant changes in the SBA share %, however, existing strategic growth plans being enacted within colleges could be hindered by a drastic change in the SBA share %.

[1] See supplemental spreadsheet for a detailed break-down on RCM budget authority changes by college, the Research Development Fund, F&A support of facilities, and all other F&A support unit budget authority.

Working Group Members:
Garth Perry—Co-Chair
Sangita Pawar—C-Chair
Parker Antin—Report Author
David Elmer
David Gonzalez
Kelly Grimm
Jason Marr
Kriss Pope
Pete Reiners
Janis Rutherford
Joan Sweasy
Mikel Tsipis
Mark Van Dyke
Justin Walker
Jason Wertheim
Folks,

I hope you had a restful holiday and are avoiding the covid!

Just looping back to see if you would like me to invite Parker to talk with us at our Feb. 24 meeting, to answer questions about the F&A working group report. I attached it again. Some things I noticed:

- They support tying RII’s budget to research activity, as reflected by F&A returns, to incentivize research support.
- Research facilities costs should not be tied to F&A returns – keep them stable and predictable.
- PIs should NOT receive a direct distribution of F&A, that it be left up to the colleges to determine what they get. This was not unanimous (6 for, 2 against, 2 undecided).

I would be curious who was for and against, based on their positions/titles. Out of curiosity, I looked up the working group members, listed below, and noticed the working group was pretty packed with college finance officers. From what I can tell, nine of the 15 people represent the interests of college deans’ finances or central administration finances. A few folks appear to represent the research of colleges. I think I see one department head. No faculty or people without a big title, from what I can tell. It appears their input reflects the perspectives of the colleges and central administration, but not research faculty, or even department heads. I suppose that’s where our input could be useful.

Also, notice on page 2 they state they “struggled with having an incomplete understanding of institutional funds flows and the resulting lack of clarity about how different options for reapportioning of F&A to specific uses might lead to shortfalls elsewhere.” That’s saying something, given the university financial expertise on the working group!

Want me to reach out to Parker to have him come chat with us?

Dave

F&A Working Group
1. Garth Perry, co-chair, VP/Chief Budget Officer
2. Sangita Pawar, co-chair, VP of Operations at RII
3. Parker Antin, report author, Associate Dean for CALS
4. David Elmer, Associate VP for Finance, Health Sciences
5. David Gonzalez, Director of Finance, Optical Sciences
6. Kelly Grimm, Assistant Dean of Finance, College of Science
7. Jason Marr, Assistant Dean of Finance, College of Medicine
8. Kriss Pope, Assistant Dean of Finance, Engineering
9. Pete Reiners, Department Head, Geosciences (left for University of Northern British Columbia?)
10. Janis Rutherford, Director of Finance, CALS
11. Joann Sweasy, Director of Cancer Center
12. Mikel Tsipis, budget analyst, provost’s office
13. Mark Van Dyke, associate dean of research, Engineering
14. Justin Walker, associate dean for business, Optical Sciences
15. Jason Wertheim, vice dean of research, College of Medicine
REPORT TO FACULTY SENATE

FROM: Student Affairs Policy Committee

DATE: April 4, 2022

ACCOMPLISHMENTS:

The committee met on 3/16/22 and discussed questions of oversight over UA Global Campus student wellness, updates on basic needs initiatives at UArizona, the upcoming Student Success Conference, the Career Champions program, and potential impacts of the rollback of the mask mandate.

The committee would like to make Senate aware of the following student-focused news and resources:

- **Last Mile Grants** are one-time special opportunity financial aid facilitated by the Thrive Center. They assist students experiencing a financial shortfall in their final year at UArizona. Contact thrive@arizona.edu for more information, although all available funds for Spring 2022 have been distributed. Donations are being accepted to support the grants.

- **Registration ends April 4 for UArizona’s 2022 Student Success Conference**, which will be held April 11 (in-person and virtual). Anyone can register and attend. See the agenda and register on the [conference website](#).

- If you missed the “Live Chat with Liesl” about the **Student Success District (SSD)** on March 8, you can view the presentation materials and watch the recording (57 minutes). A grand opening will be held April 13 at 1:30 pm in front of the Bear Down Building (to livestream the ceremony, go to arizona.edu/live). Guided tours, workshops, and classes are planned from April 6-13. You can register on the [Grand Opening website](#).

- **UA4Food**, the annual campus community food drive, will run through April 13 and benefit the University’s Campus Pantry and the Community Food Bank of Southern Arizona. Visit the UA4Food website for online donation forms. Donation boxes on campus will collect nonperishable items.

- The **Career Champions program** is a series of trainings for faculty and staff who want to be part of a broad campus network of people helping students achieve career success. Nearly 200 faculty and staff have already participated this year. Learn more at: https://career.arizona.edu/faculty-staff/careerchampions.

GOALS:

- Continue to support basic needs initiatives and increase awareness of resources
- Connect w/ stakeholders about Trellis Reports and reported outcomes from that process
- Explore student-affecting policies that changed and reverted during the pandemic to assess their continued applicability
- Connect with Student Success & Retention Innovation (planned for 5/4/22 meeting)
REPORT TO FACULTY SENATE

FROM: Graduate Council
DATE: April 4, 2022

ACCOMPLISHMENTS:

The Graduate Council met on March 18 to consider and approve the following:

- Modification to MS in Epidemiology  
  [proposal_substantial_change_ms_in_epidemiology.pdf]
- Change of Schedule Policy Revision  
  [change_of_schedule_policy_revision.docx]
- Doctor of Physical Therapy (DPT)  
  [doctor_of_physical_therapy_proposal_for_gperc.pdf]
- Master of Physician Assistant Practice (MPAP)  
  [master_of_physician_assistant_program_proposal_for_gperc.pdf]

A minor revision of the Class Attendance and Participation policy as previously approved by Grad Council was presented ([updated_class_attendance_policy.docx]).

Graduate Council has 32 members from all UArizona colleges including the Deans of the Graduate College. Twenty-six members attended the March meeting.

GOALS:

Ongoing review of new program proposals and Graduate College policies.
REPORT TO FACULTY SENATE

FROM: UArizona Staff Council http://staffcouncil.arizona.edu
DATE: April 4, 2022

ACCOMPLISHMENTS:

Flexible Work Survey

- Continued to meet with stakeholders and other working groups to clarify issues and craft survey that will go out to all staff
- Distribution of survey expected before end of the month
- Survey data will inform Staff Council directions and will be shared with other stakeholders

GOALS:

- Hold elections for officers in May 2022 for AY2022-23 board
- Identify areas where Staff Council could have more impact on issues and decision relevant to Staff
COURSE APPROVALS
The graph below shows the total number of course proposals submitted (394), in review, and/or approved as of March 23, 2022. Office of General Education will work with UWGEC to ensure remaining courses in the Approval Process are received by Curricular Affairs no later than the July 20, 2022 deadline.
APPROVED COURSE PROPOSAL STATUS

The pie chart below shows the review status of the 217 courses already approved by UWGEC.
The table below breaks down all approved courses (official and provisional) by semester and by course category.

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<td>Spring Review. No Fall Offering</td>
<td>16</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>2</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>TOTAL UNDER UWGEC REVIEW</td>
<td>87</td>
<td>10</td>
<td>27</td>
<td>13</td>
<td>36</td>
<td>2</td>
<td>175</td>
</tr>
<tr>
<td></td>
<td>GRAND TOTAL ELIGIBLE FOR FALL 2022</td>
<td>151</td>
<td>33</td>
<td>67</td>
<td>32</td>
<td>66</td>
<td>0</td>
<td>349</td>
</tr>
</tbody>
</table>
UNIV 101
UNIV 101 DESCRIPTION

UNIV 101 is a 1-unit course that all first-year students will take as a part of the new General Education curriculum at UA. This course provides a foundation for General Education to help students develop an understanding of the purpose, value, and structure of General Education at UA while practicing the skill of reflection as a part of the learning process.

Students will also begin the initial stages of working on their Gen Ed learning ePortfolio, a tool that they will use throughout their Gen Ed studies.

Link to Wildcat Perspectives, the UNIV 101 reader
UNIV 101 ENROLLMENT

The table below shows the total number of UNIV 101 sections and enrollment by campus as of March 23, 2022.

<table>
<thead>
<tr>
<th>Campus/Mode</th>
<th>Section Count</th>
<th>Enrolled</th>
<th>Maximum Seats</th>
<th>Fill Capacity %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Campus In Person</td>
<td>10</td>
<td>209</td>
<td>250</td>
<td>84%</td>
</tr>
<tr>
<td>AZ Online / Global Direct Fully Online</td>
<td>7</td>
<td>143</td>
<td>175</td>
<td>82%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>17</strong></td>
<td><strong>352</strong></td>
<td><strong>425</strong></td>
<td><strong>83%</strong></td>
</tr>
</tbody>
</table>
UNIV COURSES STAFFING

In April, the Office of General Education will be hiring multiple Professors of Practice and part-time instructors to support the full rollout of the new General Education program. In this round, we will hire:

- 11 full-time Assistant Professors of Practice (in the short term, these positions will be housed in the W.A. Franke Honors College);
- Multiple part-time UNIV 101 instructor positions for fall 2022 (open to current qualified UA faculty, staff, and administrators only).
The Resolution to Recognize the Contributions of Career-Track Faculty in the Development of the General Education Curriculum Refresh

Whereas the University of Arizona has pursued a commitment of instructional and research excellence, whose goal is to prepare our students to lead in a quickly changing world; and

Whereas the work of Career Track faculty have served to significantly advance the goals and objectives of the GenEd Refresh initiative;

We therefore resolve that the University Faculty Senate acknowledges the evident success of Career Track Faculty and all they add to this institution and the lives of the colleagues and students; and

Therefore be it further resolved that the University Faculty Senate extends its sincere appreciation to those Career Track Faculty whose efforts fostered, sustained, and continue to contribute to the General Education Refresh, recognizing, in particular, the important contributions of the following faculty:

Kathryn Alexander, PhD, Honors College
Kevin Cassell, PhD Writing Program, English
Adam Daly, PhD Chemistry and Biochemistry
Tom Fleming, PhD Astronomy and Steward Observatory
Amy Fountain, PhD Department of Linguistics, Social & Behavioral Sciences
Erin Galyen, PhD Office of Instruction and Assessment
Laura Gronewold, PhD Health Promotion Sciences
Rob Groves, PhD Religious Studies and Classics
Lindsay Hansen, PhD Office of Instruction & Assessment
Brandon Harris, PhD Teaching, Learning and Sociocultural Studies
James Hunt, PhD Family Studies and Human Development
Jane Hunter, PhD Strategic Initiatives
Jessica Kapp, PhD Geosciences
Steve Kortenkamp, PhD Planetary Sciences
Patricia Lebensohn, MD Family and Community Medicine
Brian Moon, PhD School of Music, Fine Arts
Bill Neumann, PhD Management Information Systems
Matthew Ostermeyer, PhD Teaching, Learning and Sociocultural Studies
Charlette Padilla, PhD Retailing & Consumer Sciences, Family & Consumer Sciences
John Pollard, PhD Chemistry and Biochemistry, Honors College
Tanya Quist, PhD Plant Sciences
Lucinda Rankin, PhD Physiology, Medicine
Jennifer Ravia, PhD Nutritional Sciences
Dereka Rushbrook, PhD Geography Development and Environment
Susie Salmon, JD College of Law
Gabriela Valdez, PhD Health Promotion Sciences, Global Health Institute
Joel Smith, MFA, English
Bayo Ijagbemi, PhD, Africana Studies
Benjamin Jens, PhD, Russian and Slavic Studies
REPORT TO FACULTY SENATE

DATE: April 4 2022

SUBMITTED BY The Faculty Officers, Jessica Summers, Chair of the Faculty; Melanie Hingle, Vice Chair of the Faculty; Michael Brewer, Secretary of the Faculty
http://facultygovernance.arizona.edu/

ACCOMPLISHMENTS

• Submitted the revised MOU (guiding principles + implementation plan) to Senate for consideration between the March and April 2022 Faculty Senate meeting.
• Convened a meeting for Senators (March 28, 2022, 4pm) to receive feedback, comments, questions about revised MOU on behalf of the Shared Governance Review Committee (17 Senators attended).
• Met with academic Deans (March 31, 2022) to discuss how to increase shared governance participation by faculty.

GOALS

SHORT-TERM:
• Work with senior leadership / academic affairs to ensure continued (and strong) faculty governance of academic program approvals.
• Work with members of the Shared Governance Review Committee, Faculty Senate, President Robbins, Provost Folks, Secretary Dudas, SVPR Cantwell, & CFO Rulney to establish guiding principles and an implementation plan describing how we will collaborate on decisions and direction of the university.
• Work with members of Faculty Senate, SPBAC, and senior leadership to understand UAGC / U Arizona relationship and address faculty concerns and questions.

LONG-TERM:
• To ensure a continued successful, safe, and healthy return to campus life for all members of the UA community.
• To broaden participation in shared governance to ensure that the University lives up to its values and supports its mission as we move ahead.
• To work with you to do all that we, as a community, can do to save lives, support our most vulnerable community members, and increase faculty participation in all decision-making that affects our lives and the long-term health and well-being of all of us.
To Our Senate Colleagues: We remain grateful to you for your hard work, your input, your ideas and your continued engagement in shared governance. We continue to work to support the work of the University and to ensure the prominence of the Faculty voice.

Contact us: email (Jessica Summers, jsummers@arizona.edu, Melanie Hingle hinglem@arizona.edu, Michael Brewer mbrewer@arizona.edu)
# Proposed Policy Revision

<table>
<thead>
<tr>
<th>Policy Title</th>
<th>Class Attendance and Participation, and Administrative Drop</th>
</tr>
</thead>
</table>

## Rationale for Update

Updates to classroom attendance policies and procedures introduced during the COVID-19 pandemic should be made permanent in alignment with good public health approaches. Direction on how health-related absences should be handled will ensure a more consistent experience for students regardless of instructor or department, and will encourage a healthier campus by encouraging unwell students to stay home without fear of penalty. These updates will be beneficial to the institution and its students regardless of pandemic status.

Removing Administrative Drop language at the recommendation of Undergraduate Council Curriculum & Policies subcommittee-Administrative Drop will be incorporated into a proposed update to the Change of Schedule policy, where it is more applicable. Policy title should be updated to “Class Attendance and Participation” to align with removal of Administrative Drop information.

## Effective Term and Implementation Considerations


## Contact Person for Questions

Alex Underwood, University Registrar | Chrissy Lieberman, Associate Dean of Students

<table>
<thead>
<tr>
<th>Approvals Granted (for council use only)</th>
<th>Graduate Council</th>
<th>Scheduled: 1/21/2022</th>
<th>Status: Approved with amendments 1/21/2022</th>
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<tr>
<td>Undergraduate Council</td>
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<td>U-CAAC</td>
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</tr>
<tr>
<td>Faculty Senate</td>
<td>Scheduled: 4/4/2022</td>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>

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### Policy Revision Side by Side

Additions in **Green** – Deletions in **Yellow**
<table>
<thead>
<tr>
<th>Existing Policy</th>
<th>Proposed Edit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students are expected to be regular and punctual in class attendance and to</td>
<td><strong>Class Attendance and Participation</strong></td>
</tr>
<tr>
<td>fully participate in the course. The University believes that students</td>
<td>Students are expected to be regular and punctual in class attendance and to</td>
</tr>
<tr>
<td>themselves are primarily responsible for attendance and class participation.</td>
<td>fully participate in the course. Students themselves are primarily responsible</td>
</tr>
<tr>
<td>Since students may be permitted to add classes beyond the official start date,</td>
<td>for attendance and class participation. Since students may be permitted to</td>
</tr>
<tr>
<td>instructors should be attentive to student enrollment dates when assessing</td>
<td>add classes beyond the official start date, instructors should be attentive to</td>
</tr>
<tr>
<td>adequate participation for the purposes of administrative drop.</td>
<td>student enrollment dates when assessing adequate participation.</td>
</tr>
<tr>
<td><strong>In-Person Courses</strong></td>
<td></td>
</tr>
<tr>
<td>Instructors will provide students with written statements of their policies</td>
<td>Instructors will provide students with written statements of their policies</td>
</tr>
<tr>
<td>with respect to absences and class participation. Excessive or extended</td>
<td>with respect to absences for all courses; instructors will provide students with</td>
</tr>
<tr>
<td>absence from class is sufficient reason for the instructor to administratively</td>
<td>statements of how participation will be evaluated for all courses.</td>
</tr>
<tr>
<td>drop the student from the course. For accelerated courses and for those</td>
<td></td>
</tr>
<tr>
<td>courses in which enrollment is limited, missing the first class session may</td>
<td></td>
</tr>
<tr>
<td>be interpreted as excessive absence. The date the administrative drop is</td>
<td></td>
</tr>
<tr>
<td>posted on the class roster in UAaccess Instructor Center determines how the</td>
<td></td>
</tr>
<tr>
<td>drop affects the student's academic record. If the administrative drop is</td>
<td></td>
</tr>
<tr>
<td>completed by the first drop deadline, it will result in cancellation of</td>
<td></td>
</tr>
<tr>
<td>registration in the course. The first and second drop deadlines are defined</td>
<td></td>
</tr>
<tr>
<td>below.</td>
<td></td>
</tr>
<tr>
<td><strong>Fully-Online Course Delivery</strong></td>
<td></td>
</tr>
<tr>
<td>Instructors will provide students with written statements of their policies</td>
<td></td>
</tr>
<tr>
<td>with respect to what constitutes student participation and how participation</td>
<td></td>
</tr>
<tr>
<td>will be evaluated in courses delivered fully or primarily online. The</td>
<td></td>
</tr>
<tr>
<td>instructor will determine whether the duration or extent of non-compliance with</td>
<td></td>
</tr>
<tr>
<td>the written policy is sufficient justification for administratively dropping</td>
<td></td>
</tr>
<tr>
<td>the student from the course. For accelerated courses or for courses with</td>
<td></td>
</tr>
<tr>
<td>limited enrollment, missing the first required interaction may be interpreted</td>
<td></td>
</tr>
<tr>
<td>as a failure to adequately participate. The date the administrative drop is</td>
<td></td>
</tr>
<tr>
<td>posted on the class roster in UAaccess Instructor Center will determine how it</td>
<td></td>
</tr>
<tr>
<td>affects the student's academic record. If the administrative drop is</td>
<td></td>
</tr>
<tr>
<td>completed by the first drop deadline, it will result in cancellation of</td>
<td></td>
</tr>
<tr>
<td>registration in the course. The first and second drop deadlines are defined</td>
<td></td>
</tr>
<tr>
<td>below.</td>
<td></td>
</tr>
<tr>
<td><strong>Hybrid Courses</strong></td>
<td></td>
</tr>
</tbody>
</table>

Extended Absences

Students who need to miss more than 1 week of classes (or the equivalent for accelerated courses) should provide documentation to the Dean of Students Office (DOS-deanofstudents@email.arizona.edu). Documentation should be submitted prior to a planned absence. Documentation may be submitted during or after an unplanned absence. Examples of appropriate documentation include:

- doctor's note
- jury service verification
- letter from the Office of Institutional Equity
- other documents that demonstrate extenuating circumstances

If the student is unable to offer documentation or communicate due to the nature of the situation, the Dean of Students Office should be contacted to better assess what supports are needed for the student. The Dean of Students Office will communicate the receipt of the documentation (with expected end date) to the relevant faculty.

Students who adhere to this process should not be penalized per the attendance policy for the course. Instructors should work with students to provide means to participate in or view lectures, turn in assignments, and complete exams remotely if possible. Students remain responsible for staying abreast of the coursework and for completion of all assignments.
## Existing Policy

Instructors of hybrid courses will determine whether to apply the attendance policies for In-Person or for Fully-Online Delivery. This will be clarified in the instructor’s written policy statement.

### Undergraduate Drop Deadlines

- **First Drop Deadline:** Prior to the end of the 2nd week of classes in Fall/Spring (see Dates & Deadlines for a shorter term), the course will be deleted from the student’s permanent record.

- **Second Drop Deadline:** An administrative drop in weeks three through ten of Fall/Spring (see Dates & Deadlines for a shorter term) will result in the grade of W, regardless of whether the student is passing at the time.

- **Courses taken for Audit:** The grade of XO is awarded for students who are administratively dropped for courses taken for audit after the first drop deadline.

- **After the Second Drop Deadline**—the end of the 10th week of classes in Fall/Spring (see Dates & Deadlines for a shorter term)—administrative drops will not be processed.

### Graduate Drop Deadlines

- **First Drop Deadline:** Prior to the end of the 4th week of classes in Fall/Spring (see Dates & Deadlines for a shorter term), the course will be deleted from the student’s permanent record.

- **Second Drop Deadline:** An administrative drop in weeks five through ten of Fall/Spring (see Dates & Deadlines for a shorter term) will result in the grade of W, regardless of whether the student is passing at the time.

- **Courses taken for Audit:** The grade of XO is awarded for students who are administratively dropped for courses taken for audit after the first drop deadline.

## Proposed Edit

Examinations. Non-attendance for any reason does not guarantee an automatic extension of due dates or rescheduling of examinations, laboratory, or practicum work.

### Undergraduate Drop Deadlines

apply to all undergraduate courses, regardless of delivery mode:

- **First Drop Deadline:** Prior to the end of the 2nd week of classes in Fall/Spring (see Dates & Deadlines for a shorter term), the course will be deleted from the student’s permanent record.

- **Second Drop Deadline:** An administrative drop in weeks three through ten of Fall/Spring (see Dates & Deadlines for a shorter term) will result in the grade of W, regardless of whether the student is passing at the time.

- **Courses taken for Audit:** The grade of XO is awarded for students who are administratively dropped for courses taken for audit after the first drop deadline.

### Graduate Drop Deadlines

apply to all graduate/professional courses, regardless of delivery mode:

- **First Drop Deadline:** Prior to the end of the 4th week of classes in Fall/Spring (see Dates & Deadlines for a shorter term), the course will be deleted from the student’s permanent record.

- **Second Drop Deadline:** An administrative drop in weeks five through ten of Fall/Spring (see Dates & Deadlines for a shorter term) will result in the grade of W, regardless of whether the student is passing at the time.

- **Courses taken for Audit:** The grade of XO is awarded for students who are administratively dropped for courses taken for audit after the first drop deadline.
<table>
<thead>
<tr>
<th>Existing Policy</th>
<th>Proposed Edit</th>
</tr>
</thead>
<tbody>
<tr>
<td>After the Second Drop Deadline—the end of the 10th week of classes in Fall/Spring (see Dates &amp; Deadlines[link is external] for a shorter term)—administrative drops will not be processed.</td>
<td></td>
</tr>
</tbody>
</table>

**PLEASE NOTE:**
Administrative drop is an instructor's option, not an obligation. Instructors are not required to drop students who fail to attend class. Any student who intends to drop or withdraw from a course must do so following drop and withdrawal instructions. Students who remain enrolled in a course throughout the term but fail to attend class may receive an E grade for the course.
The General Catalog is the University's primary official source of departmental, college and university-wide information related to academic programs. Courses, programs and policies that govern progress towards completion of an undergraduate degree are described in the General Catalog.

Students maintaining **continuous enrollment** follow the requirements outlined by the Catalog in effect when they first enroll in the University of Arizona or in a public Arizona community college or university (i.e., term of admission). The Catalog of the term of admission prescribes, at the minimum, the General Education curriculum and the set of academic policies that govern progress toward completion of a degree. The Catalog of...
<table>
<thead>
<tr>
<th>Existing Policy</th>
<th>Proposed Edit</th>
</tr>
</thead>
<tbody>
<tr>
<td>The term of admission also describes the program requirements of the student’s major(s) and minor(s), unless the student selects a subsequent Catalog in order to declare a newly established major or minor that was unavailable during the term of admission. In this situation, the Catalog of the admission term holds for the degree components indicated above, but a more recent Catalog is designated for (a) the major requirements, associated pre-professional requirements and related policies, or (b) the minor requirements and related policies. Thus, a student’s primary Catalog may be supplemented by one or more newer Catalogs that pertain solely to a major and/or a minor. Alternatively, a student may choose to follow all of the program and policy requirements outlined by any single Catalog in effect during subsequent terms of continuous enrollment. Each student is responsible for knowing and abiding by the policies described in the Catalog chosen. See Policies.</td>
<td>The Catalog of the term of admission prescribes the following: - General Education requirements - Academic policies that govern progress toward completion of a degree - Program requirements of the student’s major(s), minor(s), and certificate(s)</td>
</tr>
<tr>
<td>Students admitted or readmitted to a public Arizona community college or university during a summer term follow the requirements of the Catalog in effect the following Fall semester.</td>
<td>Students Admitted in Summer</td>
</tr>
<tr>
<td>Students admitted or readmitted to a public Arizona community college or university during a summer term follow the requirements of the Catalog in effect the following Fall semester. Students transferring among Arizona public higher education institutions must meet the admission requirements, residency requirements, and all curricular and academic requirements of the degree-granting institution.</td>
<td>Choosing a Newer Catalog</td>
</tr>
<tr>
<td>Choosing a Newer Catalog</td>
<td>Students may choose to follow a Catalog after their term of admission or readmission. This may be done in one of two ways: - Students may select a new Catalog for their major, minor, or certificate only, in order to declare a newly established major/minor/certificate that wasn’t available during the term of admission or readmission. In these cases, the student keeps the General Education requirements and general academic progress policies from their term of</td>
</tr>
<tr>
<td>Existing Policy</td>
<td>Proposed Edit</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>admission or readmission. Only the new major/minor/certificate requirements,</td>
<td>admission or readmission. Only the new major/minor/certificate requirements, associated pre-professional requirements, and related policies will follow the newer Catalog.</td>
</tr>
<tr>
<td>associated pre-professional requirements, and related policies will follow the</td>
<td>• Students may choose to follow all of the General Education, major/minor/certificate, and policy requirements outlined by any single Catalog in effect during a later term of continuous enrollment.</td>
</tr>
<tr>
<td>newer Catalog, and related policies will follow the newer Catalog.</td>
<td></td>
</tr>
<tr>
<td>Each student is responsible for knowing and abiding by the policies described in</td>
<td>Each student is responsible for knowing and abiding by the policies described in their chosen Catalog.</td>
</tr>
<tr>
<td>their chosen Catalog.</td>
<td>See Policies.</td>
</tr>
</tbody>
</table>
### Policy Revision

<table>
<thead>
<tr>
<th>Policy Title</th>
<th>Change of Schedule (Add/Drop) – previously Undergraduate Change of Schedule (Drop/Add); Graduate Change of Schedule (Drop/Add); Class Attendance, Participation, and Administrative Drop</th>
</tr>
</thead>
</table>

#### Rationale for Update
- Comparison of Graduate and Undergraduate Change of Schedule policies show very similar policy structure and content; recommending the two policies be consolidated, with call-outs to describe the few differences between careers.
- UGC Policies Subcommittee recommended the Administrative Drop policy be separated from the Class Attendance & Participation policy. Proposing Administrative Drop be incorporated into Change of Schedule policy as it is a type of change of schedule.
- Aligning dates and process for adding/changing courses. Although Graduate-level policy currently shows a Change of Schedule form with instructor signature required as of the first day of classes, in practice all students can add/change classes through self-service during the first week of classes.
- Adding specific deadline information for 7.5-week sessions as they are widely used across the institution. Other accelerated sessions are less common and will still simply link to the Office of the Registrar Dates and Deadlines page for term-specific information.
- The Advising community has requested to remove the 18 unit W cap for undergraduates, update the retroactive withdrawal process, and remove developmental courses from W cap (if the cap isn’t removed completely). These elements are undergoing benchmarking and will be considered separately from this proposal.

#### Contact Person for Questions
Abbie Sorg – Assistant Registrar, Academic Catalog & Policy

#### Responsible Unit
Office of the Registrar

#### URL
https://registrar.arizona.edu/

#### Career Applicability
☒ Undergraduate  ☒ Graduate  ☒ Law  ☒ Medicine  ☒ Pharmacy  ☒ Veterinary Medicine

#### Approvals Granted
(for council use only)

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<tr>
<td>UGC Policies Subcommittee</td>
<td>1/25/2022</td>
<td>Approved 2/22/2022</td>
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<td>Undergraduate Council</td>
<td>3/15/2022</td>
<td>Approved 3/15/2022</td>
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<td>Graduate Council</td>
<td>3/18/2022</td>
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<td>Undergraduate CAAC</td>
<td>3/29/2022</td>
<td>Approved 3/29/2022</td>
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<td>Graduate CAAC</td>
<td>3/8/2022</td>
<td>Approved with revisions 3/8/2022</td>
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<tr>
<td>Faculty Senate Executive Committee</td>
<td>3/21/2022</td>
<td>Approved 3/21/2022</td>
</tr>
<tr>
<td>Faculty Senate</td>
<td>4/4/2022</td>
<td>Status:</td>
</tr>
</tbody>
</table>

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Last updated: 4/1/2022 4:56 PM
Existing Policy

**Undergraduate Change of Schedule (Drop/Add)**

Students may drop and/or add courses by following instructions and adhering to deadlines set by the Registrar each semester or term. [Change of Schedule (drop/add)](link is external) forms are available in departments and can also be printed in pdf format on the Office of the Registrar's website. To see when a Change of Schedule form is required, see [Dates and Deadlines](link is external).

During the first week of classes in a semester (or proportional period in a shorter term), UAaccess is available for registration or adding/changing classes. After the first week of a semester (or proportional period in a shorter term), a [Change of Schedule (drop/add)](link is external) form with the instructor’s signature is required to add or change classes. Registration from zero units after the first week of a semester (or proportional period in a shorter term) requires the instructor’s and college dean’s permission on a Change of Schedule form.

**Fall & Spring Semesters (16-week courses):**

Course withdrawals before the first deadline, at the end of the second week of classes (the tenth day of regularly scheduled classes), result in cancellation of registration in the course. The course enrollment is deleted from the student’s permanent record.

For course withdrawals filed between the first and second withdrawal deadlines—at the end of the tenth week of classes—a grade of W is awarded, regardless of whether the student is passing at the time of withdrawal. No approval is needed. Students use UAaccess Student Self-Service to withdraw from a course. The W will appear on the student’s permanent record, but it does not affect the student's grade-point-average (GPA).

The second withdrawal deadline is normally the student’s last opportunity to drop a course, except for an extraordinary reason approved by the course instructor and student’s college dean via a Late Change Petition. With the college dean’s approval, undergraduates may drop a course from the eleventh through the thirteenth week of regularly scheduled classes. Any approved

Proposed Edit

**Undergraduate Change of Schedule (Drop/Add)**

The [Change of Schedule (drop/add)](link is external) process and instructions are accessible on the Office of the Registrar’s website. Change of Schedule deadlines are set by the Registrar and published at [Dates and Deadlines](link is external).

**Adding and Changing Courses**

During the first week of classes in a semester (or proportional period in other sessions), students may use UAaccess Student Self-Service to add or change courses. After that point, the instructor’s signature is required in the [Change of Schedule (drop/add)](link is external) process to add or change courses.

**Dropping Courses (Drop, Withdrawal, and Administrative Drop)**

**Student-Initiated Drop and Withdrawal:** Any student who intends to drop or withdraw from a course must follow the deadlines and processes listed below. Students who remain enrolled in a course throughout the term but fail to attend and/or complete assignments may receive a failing grade for the course.

Students are encouraged to consult with their academic advisor or faculty advisor prior to withdrawing from courses. Withdrawal from courses might adversely affect students’ financial aid and visa status as well as their eligibility for fellowships, awards, scholarships, and graduate assistantships.

**Administrative Drop and Withdrawal (instructor-initiated):** Administrative drop is an instructor’s option, not an obligation. Instructors are not required to drop students who fail to attend class. Since students may add courses beyond the official start date, instructors should be attentive to student enrollment dates when assessing adequate participation for the purposes of administrative drop. Students may be administratively dropped in the following circumstances:
<table>
<thead>
<tr>
<th>Existing Policy</th>
<th>Proposed Edit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late Change Petitions must be submitted to the Registrar prior to the final examination period.</td>
<td>• Excessive or extended absence from in-person or synchronous online class sessions</td>
</tr>
<tr>
<td><strong>Summer &amp; Winter Session courses, and courses with non-standard start-and-end dates:</strong></td>
<td>• Noncompliance with student participation policies listed in the syllabus (the duration or extent of noncompliance that warrants administrative drop will be indicated in the syllabus)</td>
</tr>
<tr>
<td>The Registrar determines the first and second withdrawal deadlines for shorter terms and for courses with non-standard start-and-end dates. Those deadlines are based on the length of the session (or the course); see then Dates &amp; Deadlines.(link is external)</td>
<td>• Missing the first class session or required interaction for classes that are accelerated or that have limited enrollment</td>
</tr>
<tr>
<td>Courses dropped before the first deadline result in cancellation of registration; the student’s enrollment in the course is deleted from the permanent record. Courses dropped between the first and second withdrawal deadlines result in a grade of W, regardless of whether the student is passing at the time of withdrawal. No approval is needed to withdraw before the second deadline. Students use UAccess Student Self-Service to withdraw from a course. The W grade will appear the student’s permanent record, but it does not affect the student’s GPA. Specific withdrawal deadlines for shorter or non-standard terms are published in the Dates &amp; Deadlines(link is external).</td>
<td>Drop/Withdrawal Procedure and Transcript Effects:</td>
</tr>
<tr>
<td>The two drop deadlines for courses with extended terms (i.e., those extending 5 or more months) are proportional with those set for the Fall or Spring Semester.</td>
<td>- Courses dropped prior to the drop deadline will not appear on the student’s transcript, and no grade will be recorded.</td>
</tr>
<tr>
<td>The second deadline to drop a course is normally the student’s last opportunity to withdraw, except for an extraordinary reason approved by the course instructor and student’s college dean via a Late Change Petition. With the college dean’s approval, undergraduates may drop a course with shorter or non-standard start-and-end dates--prior to the final examination period.</td>
<td>- Courses withdrawn from after the drop deadline will remain on the student’s transcript, with a grade of W (or XO for auditing students) recorded, regardless of whether the student was passing at the time of withdrawal. The W (or XO) grade does not affect the student’s grade point average (GPA).</td>
</tr>
<tr>
<td>For professional students in the colleges of Law and Medicine, course withdrawals are governed by regulations established by the respective college faculties.</td>
<td>Late Withdrawals</td>
</tr>
<tr>
<td>Unit Maximum on Course Withdrawals: The number of undergraduate course withdrawals (drops) cannot exceed 18 units during the student’s undergraduate career; the 18-unit limit will be reset</td>
<td>Students may only withdraw from courses after the withdrawal deadline under extraordinary circumstances. Administrative drops are not processed after the withdrawal deadline.</td>
</tr>
<tr>
<td><strong>A Late Change Petition</strong> must be submitted with approval from the course instructor and appropriate dean (college dean for undergraduate courses; Graduate College dean for graduate courses) to withdraw from a course after the withdrawal deadline. Approved Late Change Petitions must be submitted to the Registrar prior to the final examination period.</td>
<td>A Late Change Petition must be submitted with approval from the course instructor and appropriate dean (college dean for undergraduate courses; Graduate College dean for graduate courses) to withdraw from a course after the withdrawal deadline. Approved Late Change Petitions must be submitted to the Registrar prior to the final examination period.</td>
</tr>
</tbody>
</table>
once a student completes a bachelor's degree at the University and begins a Second Bachelor's Degree (does not apply to concurrent degrees). The 18-unit maximum applies to all classes dropped with a W grade. The W grade is awarded for all withdrawals between the first and final withdrawal deadlines—from the third week through the thirteenth week of a regular semester (including those awarded for administrative drops or for approved Late Change Petitions).

For students in select professional programs in the colleges of Law, Medicine, and Veterinary Medicine, class withdrawals are governed by regulations established by the respective college faculties.

Unit Maximum on Course Withdrawals:

- Undergraduate: The number of course withdrawals (drops) cannot exceed 18 units during the student's undergraduate career; the 18-unit limit will be reset once a student completes a bachelor's degree at the University and begins a Second Bachelor's Degree (does not apply to concurrent degrees). The 18-unit maximum applies to all courses dropped with a W grade.

- Graduate: There is no unit maximum on the number of course withdrawals for graduate and professional students.

Drop/Withdrawal Deadlines

The date a drop/withdrawal is processed in the student information system determines how the drop affects the student’s academic record. See Dates and Deadlines(link is external) for specific dates.

<table>
<thead>
<tr>
<th>Drop Deadline</th>
<th>Undergraduate</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-week sessions</td>
<td>10th day of session*</td>
<td>20th day of session*</td>
</tr>
<tr>
<td>7.5-week sessions</td>
<td>5th day of session*</td>
<td>10th day of session*</td>
</tr>
<tr>
<td>Summer, Winter, and all remaining sessions</td>
<td>Deadline is determined proportionally based on class or session length. See Dates and Deadlines(link is external).*</td>
<td></td>
</tr>
<tr>
<td>Withdrawal Deadline</td>
<td>Proposed Edit</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td><strong>Fall/Spring 16-week semesters</strong></td>
<td>End of the 10th week** of session*</td>
<td>End of the 10th week** of session*</td>
</tr>
<tr>
<td>7.5-week sessions</td>
<td>End of the 5th week** of session*</td>
<td>End of the 5th week** of session*</td>
</tr>
<tr>
<td>Summer, Winter, and all remaining sessions</td>
<td>Deadline is determined proportionally based on class or session length. See [Dates and Deadlines](link is external).*</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Late Change Petition Deadline</th>
<th>Proposed Edit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall/Spring 16-week semesters</strong></td>
<td>End of 13th week** of session*</td>
</tr>
<tr>
<td>7.5-week sessions</td>
<td>End of the 6th week** of session*</td>
</tr>
<tr>
<td>Summer, Winter, and all remaining sessions</td>
<td>Deadline is determined proportionally based on class or session length. See [Dates and Deadlines](link is external).*</td>
</tr>
</tbody>
</table>

* All deadlines are determined by the Office of the Registrar. See [Dates and Deadlines](link is external) for specific dates.

** As sessions do not always begin on the same day of the week, weeks are counted as 7-day periods starting with the first day of the session for the purpose of setting deadlines.
Graduate Change of Schedule (Drop/ Add)

Students may drop and/or add courses by following instructions and adhering to deadlines set by the Registrar each semester. Change of Schedule (drop/add) forms are available in departments and can also be printed in .pdf format on the Office of the Registrar's Web site. To see when a Change of Schedule form is required, see Graduate Dates and Deadlines.

As of the first day of classes and through the last day of registration for credit, as stated in the Academic Calendar, a student may not add a course with a Change of Schedule form without the permission and the signature of the course instructor.

Fall & Spring Semesters (16-week courses):

Graduate course withdrawals before the first deadline, at the end of the fourth week of classes (the twentieth day of regularly scheduled classes), result in cancellation of registration in the course. The course enrollment is deleted from the student's permanent record.

For graduate course withdrawals filed between the first and second withdrawal deadlines—at the end of the tenth week of classes—a grade of W is awarded, regardless of whether the student is passing at the time of withdrawal. No approval is needed. The W will be displayed on the student's permanent record, but it does not affect the student's grade-point-average (GPA).

The second withdrawal deadline is normally the student's last opportunity to drop a course, except for an extraordinary reason approved by the course instructor and Graduate College Dean on a Change of Schedule Form. With the Graduate College Dean's approval, graduate courses may be dropped from the eleventh week through the final day of regularly scheduled classes. Any approved Change of Schedule Forms must be submitted to the Registrar prior to the final examination period.

Summer & Winter Session courses, and courses with non-standard start-and-end dates:

The Registrar determines the first and second withdrawal deadlines for shorter terms and for graduate courses with non-standard start-and-end
<table>
<thead>
<tr>
<th>Existing Policy</th>
<th>Proposed Edit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Those deadlines are based on the length of the session (or the course); see the <a href="#">Graduate Dates &amp; Deadlines</a>.</td>
<td></td>
</tr>
<tr>
<td>Graduate courses dropped before the first deadline result in cancellation of registration; the student's enrollment in the course is deleted from the permanent record. Courses dropped between the first and second withdrawal deadlines result in a grade of W, regardless of whether the student is passing at the time of withdrawal. No approval is needed to withdraw before the second deadline. The W grade will be displayed on the student's permanent record, but it does not affect the student's GPA. Specific withdrawal deadlines for shorter or non-standard terms are published in the <a href="#">Graduate Dates &amp; Deadlines</a>.</td>
<td></td>
</tr>
<tr>
<td>The two drop deadlines for graduate courses with extended terms (i.e., those extending 5 or more months) are proportional with those set for the Fall or Spring Semester.</td>
<td></td>
</tr>
<tr>
<td>The second deadline to drop a graduate course is normally the student's last opportunity to withdraw, except for an extraordinary reason approved by the course instructor and Graduate College Dean via a Change of Schedule Form. With the Graduate College Dean's approval, graduate students may drop a course with shorter or non-standard start-and-end dates--prior to the final examination period.</td>
<td></td>
</tr>
<tr>
<td><strong>Note:</strong> No fee is charged to graduate and professional students for dropping or withdrawing from classes. There is no unit maximum on the number of course withdrawals for graduate and professional students. <strong>However,</strong> students should be aware that withdrawal from courses might adversely affect their financial aid and visa status as well as their eligibility for fellowships, awards, scholarships, and graduate assistantships.</td>
<td></td>
</tr>
<tr>
<td><strong>For professional students in the colleges of Law and Medicine,</strong> course withdrawals are governed by regulations established by the respective college faculties.</td>
<td></td>
</tr>
</tbody>
</table>
Class Attendance, Participation, and Administrative Drop

Students are expected to be regular and punctual in class attendance and to fully participate in the course. The University believes that students themselves are primarily responsible for attendance and class participation. Since students may be permitted to add classes beyond the official start date, instructors should be attentive to student enrollment dates when assessing adequate participation for the purposes of administrative drop.

In-Person Courses

Instructors will provide students with written statements of their policies with respect to absences and class participation. Excessive or extended absence from class is sufficient reason for the instructor to administratively drop the student from the course. For accelerated courses and for those courses in which enrollment is limited, missing the first class session may be interpreted as excessive absence. The date the administrative drop is posted on the class roster in UAccess Instructor Center determines how the drop affects the student's academic record. If the administrative drop is completed by the first drop deadline, it will result in cancellation of registration in the course. The first and second drop deadlines are defined below.

Fully-Online Course Delivery

Instructors will provide students with written statements of their policies with respect to what constitutes student participation and how participation will be evaluated in courses delivered fully or primarily online. The instructor will determine whether the duration or extent of non-compliance with the written policy is sufficient justification for administratively dropping the student from the course. For accelerated courses or for courses with limited enrollment, missing the first required interaction may be interpreted as a failure to adequately participate. The date the administrative drop is posted on the class roster in the UAccess Instructor Center will determine how it affects the student's academic record. If the administrative drop is completed by the first drop deadline, it will result in cancellation of registration in the course. The first and second drop deadlines are defined below.

Hybrid Courses
Existing Policy

Instructors of hybrid courses will determine whether to apply the attendance policies for In-Person or for Fully-Online Delivery. This will be clarified in the instructor's written policy statement.

**Undergraduate Drop Deadlines** apply to all undergraduate courses, regardless of delivery mode:

- **First Drop Deadline:** Prior to the end of the 2nd week of classes in Fall/Spring (see [Dates & Deadlines](link is external) for a shorter term), the course will be deleted from the student's permanent record.

- **Second Drop Deadline:** An administrative drop in weeks three through ten of Fall/Spring (see [Dates & Deadlines](link is external) for a shorter term) will result in the grade of W, regardless of whether the student is passing at the time.

- **Courses taken for Audit:** The grade of XO is awarded for students who are administratively dropped for courses taken for audit after the first drop deadline.

- **After the Second Drop Deadline**—the end of the 10th week of classes in Fall/Spring (see [Dates & Deadlines](link is external) for a shorter term)—administrative drops will not be processed.

**Graduate Drop Deadlines** apply to all graduate/professional courses, regardless of delivery mode:

- **First Drop Deadline:** Prior to the end of the 4th week of classes in Fall/Spring (see [Dates & Deadlines](link is external) for a shorter term), the course will be deleted from the student's permanent record.

- **Second Drop Deadline:** An administrative drop in weeks five through ten of Fall/Spring (see [Dates & Deadlines](link is external) for a shorter term) will result in the grade of W, regardless of whether the student is passing at the time.

- **Courses taken for Audit:** The grade of XO is awarded for students who are administratively dropped for courses taken for audit after the first drop deadline.

Proposed Edit

Instructors of hybrid courses will determine whether to apply the attendance policies for In-Person or for Fully-Online Delivery. This will be clarified in the instructor's written policy statement.

**Undergraduate Drop Deadlines** apply to all undergraduate courses, regardless of delivery mode:

- **First Drop Deadline:** Prior to the end of the 2nd week of classes in Fall/Spring (see [Dates & Deadlines](link is external) for a shorter term), the course will be deleted from the student's permanent record.

- **Second Drop Deadline:** An administrative drop in weeks three through ten of Fall/Spring (see [Dates & Deadlines](link is external) for a shorter term) will result in the grade of W, regardless of whether the student is passing at the time.

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**Graduate Drop Deadlines** apply to all graduate/professional courses, regardless of delivery mode:

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<tr>
<td>• After the Second Drop Deadline—the end of the 10th week of classes in Fall/Spring (see Dates &amp; Deadlines(link is external) for a shorter term)—administrative drops will not be processed.</td>
<td></td>
</tr>
</tbody>
</table>

**PLEASE NOTE:**

Administrative drop is an instructor's option, not an obligation. Instructors are not required to drop students who fail to attend class. Any student who intends to drop or withdraw from a course must do so following drop and withdrawal instructions. Students who remain enrolled in a course throughout the term but fail to attend class may receive an F grade for the course.
New Policy Proposal

<table>
<thead>
<tr>
<th>Policy Title</th>
<th>Posthumous Degree and Posthumous Certificate of Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rationale for New Policy</strong></td>
<td>The University of Arizona has no official policy regarding awarding a posthumous degree, although there has been a well-established procedure. The University of Arizona seeks to extend compassion and understanding to the families of students who pass away near the completion of their degrees. This policy outlines the criteria and procedure for requesting a posthumous degree or a certificate of achievement. Both of our ABOR partner institutions (ASU/NAU) have official policies. Many of our PAC-12 peers have published policies that include the criteria for requesting and awarding the posthumous degree.</td>
</tr>
</tbody>
</table>
| **Effective Term and Implementation Considerations** | Effective term: Fall 2021  
Implementation Considerations:  
• Certificate of Achievement design will be created |
| **Contact Person for Questions** | Amanda Gluski, Associate Registrar | Chrissy Lieberman, Associate Dean of Students |
| **Approvals Granted** | Graduate Council | Scheduled: 11/19/2021 | Status: Approved with revisions 11/19/2021 |
|                           | G-CAAC | Scheduled: 1/11/2022 | Status: Approved with revisions 1/11/2022 |
|                           | UGC Policies Subcommittee | Scheduled: 10/26/2021 | Status: Approved 10/26/2021 |
|                           | Undergraduate Council | Scheduled: 11/9/2021 | Status: Approved 11/9/2021 |
|                           | U-CAAC | Scheduled: 1/25/2022 | Status: Approved 1/25/2022 |
|                           | Faculty Senate | Scheduled: 4/4/2022 | Status: |

**Proposed Policy**

The University of Arizona extends compassion and understanding to the families of students who pass away near the completion of their degrees. This policy outlines the criteria and procedure for requesting a posthumous degree or a certificate of achievement. In recognition of the student’s achievements, students awarded a posthumous degree or certificate of achievement will be included in the next Commencement program.

To be eligible for a posthumous degree, the student must:

- Be in Eligible or Good Academic standing during the last completed term (Undergraduates: cumulative GPA of 2.0 or greater and major GPA of 2.0 or greater. Graduates: cumulative GPA of 3.0 or greater.)
- Undergraduate: have reached Senior standing (90 completed units)
- Graduate & Professional: have completed 75% of the coursework required for the respective degree
- Have completed at least one semester at the University of Arizona

A student who does not meet the criteria for a posthumous degree may be awarded a Certificate of Achievement at the family’s request and support of the College.

A posthumous degree or certificate of achievement is awarded at the request of the student’s family. To initiate a request, family members or a representative from the student’s college should contact the Dean of Students.
Appendix

Peer institution posthumous degree policy comparison chart.

<table>
<thead>
<tr>
<th>School</th>
<th>Requirements for the Posthumous Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASU</td>
<td>Undergraduate student requirements: 100 total units earned, 30 must be in residence at ASU; Graduate student requirements: individual review to determine &quot;substantial progress to degree&quot;.</td>
</tr>
<tr>
<td>NAU</td>
<td>Student must have been enrolled at Northern Arizona University at the time of death (or have died or been diagnosed with a terminal illness within 12 months of the last registration); been in good academic and disciplinary standing, completed at least 75% of the coursework required for their respective degrees; Completion of work for a graduate degree will be determined by the appropriate academic department in consultation with the Dean of the Graduate College.</td>
</tr>
<tr>
<td>Colorado</td>
<td>Current enrollment at the time of death (summer excluded) unless enrollment was interrupted by injury, illness, military deployment or similar circumstance; Good academic standing; Completion of 75% of requirements toward a degree</td>
</tr>
<tr>
<td>Oregon</td>
<td>To receive a posthumous degree, at the time of death, the University Registrar must confirm that a student was (a) officially enrolled or (b) actively pursuing degree completion and within two terms of degree completion, that is, the current term and one additional term/semester.</td>
</tr>
<tr>
<td>OSU</td>
<td>Undergraduate degrees and certificates may be awarded posthumously in cases where the student officially had earned senior standing at the time of death. Senior standing must be verified by the academic unit. Graduate and professional degrees and certificates may be awarded posthumously in cases when the student would likely have completed the degree or certificate had it not been for the intervention of death. Generally, this means that all requirements would have been completed during the term when death occurred. Satisfactory completion of degree requirements must be verified by the signature of the student’s graduate advisory committee.</td>
</tr>
<tr>
<td>UCLA</td>
<td>Normally, the posthumous degree is conferred on students currently enrolled or on leave at the time of death. To be eligible for a posthumous baccalaureate degree, the deceased student must have senior-level standing and have a 2.0 GPA. For students who pass away before achieving the requisite number of units for senior-level standing or who do not possess the requisite 2.0 GPA, the University will offer a Certificate of Attendance detailing the student’s progress toward the degree.</td>
</tr>
<tr>
<td>Utah</td>
<td>A posthumous award will be considered if a student was in their final semester of study and had applied to graduate. If the student does not qualify for a posthumous degree, a certificate of achievement may be awarded to honor the work the students had completed. The Office of the Dean of Students will assist in contacting the appropriate University officials to request a posthumous degree or certificate of achievement. The diploma or announcement will be released to the designated family member.</td>
</tr>
</tbody>
</table>

Procedure

1. Dean of Students receives notification of student death
2. Dean of Students notifies the student’s college of the death
3. DOS will wait to initiate the posthumous request until they receive the Next of Kin Affidavit (~30 days)
4. Upon request of family, record is forwarded to college for review
5. Dean of Students will initiate the Posthumous Degree Request Form or Request for Certificate of Achievement
6. Request reviewed by appropriate unit (Graduation Services, Graduate Student Academic Services, Professional College Registrar, etc.) to confirm whether the student meets the criteria for the posthumous degree
7. Associate Registrar approves request for the degree or certificate of achievement, returns the form to Dean of Students
8. Dean of Students confirms mailing address for the student’s family
9. Graduation Services, in collaboration with Graduate Student Academic Services as appropriate, will:
   a. Post the posthumous degree and order the diploma
   b. Generate the certificate of achievement
   c. Ensure the printing of the student’s name will be included in the next Commencement program (if requested)
COI/COC Discussion
FACULTY SENATE

April 4, 2022

BETSY CANTWELL
Senior Vice President for Research and Innovation
My requests

• Help us as an institution develop a 2-pronged approach to matters of academic freedom associated with International engagement
  o Participate in the development of a new office for research security that meets federal requirements as they are developed over the upcoming year
  o Work with RII to develop a working group for broad research security considerations that supports in perpetuity the latter

• Work together with RII and our sibling universities in AAU and APLU (and any other university coalitions that operate at scale) to continuously engage in the larger messaging around the importance of International engagement
Background

- Federal agency (NIH) request for policy review and augmentation – August 2018
- Policy development initiated at UA - February 2019
- Interim policy submitted to Federal Agency – May 2021 (required by NIH)
- UA policy finalized – December 2021 (after 2 review cycles)
- Stakeholders involved in the two review and feedback periods:
  - Faculty Senate
  - Student Affairs Policy Committee
  - Academic Personnel Policy Committee (APPC)
  - Assoc Deans for Research
  - Research Policy Committee (RPC)
  - Institutional Review Committee (IRC)
  - Dean’s Council
  - Procurement & Contracting Services (PACS)
  - Internal Audit
  - Tech Launch Arizona (TLA)
  - Associated Students of the University of Arizona (ASUA)
  - Classified Staff Council
  - Appointed Professionals Advisory Council (APAC)
  - APAC Subcommittee on Policy
  - Graduate & Professional Student Council
  - SLT
  - Executive Review Committee (ERC)
  - Public Comments
Current COI/COC Policy:  Conflicts of Interest & Commitment Policy

Integrated the following policies:

- Conflict of Commitment Policy
- Conflict of Interest (UHAP) Policy
- Conflict of Interest in Purchasing Policy
- Individual Conflict of Interest in Research Policy
- Institutional Conflict of Interest Policy

* The policy language was reviewed and approved by OGC for compliance with federal regulations, state law and ABOR policies.
Policy requirements are based on current Federal & State regulations

- Pre-1980: Arizona's Conflict of Interest statute enacted
- 1988: ABOR adopts policy that University Employees can have Outside Employment if it is "fully consistent with all rules promulgated by" UArizna and ABOR.
- 1995: NSF makes changes to financial disclosure policy to align with PHS's policy
- 2011: PHS's Promoting Objectivity in Research regulations implemented
- 2011: NIH requests institutional conflict of interest policies at research institutions
- 2018: NIH requests COI/COC policies be reviewed and augmented
- Jan 2021: US Government Accountability Office issues Protecting Federal Research from Foreign Influence
- Spring 2021: Federal funding agencies inform research institutions that conflict of commitment review must occur prior to conflict of interest review.
- Jan 2022: National Science & Technology Council issues Guidance for Implementing NSPM 33
What happens if we fail to comply with COI/COC policy requirements?

- UArizona faculty would be ineligible to receive federal funding. This will not be implemented faculty by faculty, but institutionally, agency by agency.
- UArizona faculty would become ineligible to receive many private grants. (Many private organizations have adopted conflict policies that require grantees to have a conflict policy that requires disclosure and conflict review and complies with Federal guidelines.)
- UArizona and its employees would be in violation of Arizona's conflict statute (ARS 38-503).
- Our faculty who are externally (Agency) investigated may be at significantly higher risk due to lack of conforming policy.
Support systems being put in place now

- New Faculty Liaison position in the OROI
- FAQs living document on OROI webpage
- Disclosure Scenarios to help answer common questions/concerns
- Annual review with Faculty Senate & OGC to consider policy changes that may be needed as a result of FAQ analysis
Other Support Tools

- Disclosure Matrix
  https://research.arizona.edu/compliance/office-responsible-outside-interests/disclosure-requirements

- Decision Tree
  https://research.arizona.edu/compliance/office-responsible-outside-interests/disclosure-requirements

- Responsibility Accountability Consulted Informed Matrix
  https://research.arizona.edu/compliance/office-responsible-outside-interests/disclosure-requirements/coc-coi-review-processes
More is coming

- NSPM33
- NSF AI-Based System

Whitehouse implementation guidance

- Digital persistent identifiers
- Consequences for violation
- Research Security Program
**International Collaboration Catechism**

- Describe the engagement succinctly and without jargon. Is it fundamental research? If not, what are the institution's policies around creating the engagement?
- Are the terms of the engagement made clear in writing? Have all the participants been identified? Are all participants known to the PI and the PI’s institution?
- Are all the participants' conflicts of interest and commitment documented? Are there any aspects of the engagement that are not to be disclosed to any of the participants? If so, what is the reason?
- Is there any aspect of the engagement that seems unusual, unnecessary or poorly specified?
- Where does the funding and other resources needed for the activity come from? Is it clear what each party is providing?
National Security Presidential Memorandum
33 (NSPM-33)

Addresses why research security and integrity are important and outlines their key elements.

Establishes federal department and agency roles and responsibilities related to research security.

Contains requirements such as:
- Disclosure of key information to federal agencies
- Establishment of a research security program for institutions receiving $50M in federal funding

NSPM Implementation Guidance

- Disclosure Policy — ensuring that federally-funded researchers provide their funding agencies and research organizations with appropriate information concerning external involvements that may bear on potential conflicts of interest and commitment;
- Oversight and Enforcement — ensuring that federal agencies have clear and appropriate policies concerning consequences for violations of disclosure requirements and interagency sharing of information about such violations; and,
- Research Security Programs — ensuring that research organizations that receive substantial federal R&D funding (greater than $50 million annually) maintain appropriate research security programs.
Backup Slides With FAQ Examples
QUESTIONS?

Thank you
Concern #1 (presented by Dr. Hingle on behalf of Faculty Senate)

"the words "volunteer / pro bono work" which respondents pointed out are a) two different things, and b) are outside of the University's purview since volunteer time unpaid and outside of typical work hours"

SCENARIO #1

A College of Nursing faculty member is a registered nurse and will be participating in their child’s school’s field day where they will be working the first aid station.

- While nursing and first-aid may be within the same knowledge area, this is not a “professional or other activities that are related to a University Employee’s professional expertise” that requires COC disclosure.

SCENARIO #2

A College of Law faculty member who teaches Labor Law courses would like to represent an individual in a worker’s compensation claim. This will be pro bono and the faculty member will use nights, weekends and/or vacation time.

- This is an Outside Commitment that requires disclosure because it is a "professional or other activities that are related to a University Employee’s professional expertise," is outside of their UArizona duties and responsibilities, and is for the benefit of a third party.
**Concern #2** *(presented by Dr. Hingle on behalf of Faculty Senate)*

"professional and other activities that faculty engage in frequently (e.g., Editor of a scientific journal) which meet the written definition of an "outside commitment" in this policy but is expected of faculty as part of their professional service and evaluated in promotion and tenure, are not currently reported, and would create quite a bit of administrative burden to track"

<table>
<thead>
<tr>
<th>SCENARIO #1</th>
<th>SCENARIO #2</th>
<th>SCENARIO #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>An Investigator receives personal compensation or an honorarium of $5,000 or more for editing journal articles. In this instance, the editing work must be disclosed as a Significant Financial Interest for conflict of interest (COI) review even though it is part of the individual’s professional service requirement. The Investigator would not need to submit a COC form if the activity is part of their professional service.</td>
<td>An Investigator serves on the Scientific Advisory Board for a professional society but does not receive any remuneration. The Investigator must disclose this board membership as a Significant Personal Interest for conflict of interest (COI) review. The Investigator would not need to submit a COC form if the activity is part of their professional service.</td>
<td>An Investigator receives an honorarium of $300 from a foreign funding agency to review research proposals. In this instance, the Investigator must disclose the review work as a Foreign Interest for conflict of interest (COI) even though the remuneration is less than $5,000 and the work may be part of the individual’s professional service. The Investigator would not need to submit a COC form if the activity is part of their professional service.</td>
</tr>
</tbody>
</table>
Bringing Insights to Action:

Data Informed Approaches to Addressing Student Basic Needs

Dan McDonald: Director, TCAI & Extension Specialist
Diane Ohala: Associate Professor of Practice, Linguistics, SAPC Co-Chair
Tim Ottusich: Associate Professor of Practice, Family Studies and Human Development
Bridgette Riebe: BNC Co-Chair; Coordinator, Campus Pantry
Basic Needs Coalition Overview

WHAT
Assembled to address ABOR Basic Needs Working Group but centered on the specific needs of UArizona

WHEN
Launched in Spring of 2019

WHO
Representation across campus
Data Sources

Main Campus Student Survey
- Spring 2021 with a 10.5% response rate
- Full Report on A&R website

Topics
- Extent of need (food, housing, transportation, health care, academic technologies, professional clothing)
- Use of resources
- Barriers to use
- Perceptions of university support
- Impact on academic success
- Differences by population
Data Sources

Student Focus Groups
- Fall 2021
- Undergraduate & Graduate
- Preliminary insights shared today
- Analysis and report in progress

Topics
- Lived experience and barriers to access
- Perceptions of campus efforts
- Recommendations to improve support and communicate resources

It’s about not having to worry constantly about whether or not you’re going to be able to live decently. I think it’s not just being able to eat, but being able to eat healthy food, and not having to walk an hour to get to the grocery store, so that you have time and energy to focus on improving yourself or trying to achieve your goals. - Undergraduate, Computer Science & Mathematics
Insight

University of Arizona students have unmet basic needs challenges.
1 in 3 surveyed students reported food insecurity

35% of respondents experienced food insecurity. 19% reported low food security, and 16% very low food security.

- **Low food security**
  - reduced quality or variety in diet

- **Very low food security**
  - disrupted eating patterns and reduced food intake
Housing insecurity less common, but a critical need

8% of respondents experienced housing insecurity.

Housing insecurity disruption in permanent housing, indicated by sleeping in temporary (i.e., couch surfing) or sub-standard conditions (i.e., outdoors, garage).

7 in 10 respondents experiencing housing insecurity also experienced food insecurity.
Students who are from systemically marginalized populations are more likely to experience basic needs insecurity.
Most students in need did not utilize resources to help meet food or housing insecurity challenges.
Focus groups revealed reasons for not seeking support are complex, including both internal and external factors.
Basic needs encompass more than food and shelter.

Worry about meeting needs impact student academics, well-being, and plans for the future.
Insight

Student prioritization of basic needs support is high.
Out of 26 priorities for funding for student fees, basic needs support was at the top. Over half (53%) of students rated as essential.
The Role of Faculty

Faculty serve a critical role in normalizing basic needs and in supporting access to and use of basic needs resources by students.

Things faculty can do:

- Add basic needs language to syllabi, and talk about services available in class
- Add standing announcement /widget on your D2L course homepage (example right)
- Incorporate awareness of basic needs in course assignments, as appropriate or relevant to help reduce stigma & normalize basic needs conversations
Resources

Website: basicneeds.arizona.edu

Items & Funding Needs
- Campus Closet
- SNAP (food stamps)
- Library Technology Lending
- Childcare support stipend
- Student Emergency Fund

Services & Multi-Resource
- CAPS
- Dean of Students
- 211 Arizona
- Tucson Pima Coalition to End Homelessness
Next Steps for Faculty Senate

Google Document
Help us out by contributing your thoughts on the faculty's role in supporting basic needs!

Connect with SAPC
Diane Ohala (ohalad@arizona.edu), Co-Chair
Cheryl Casey (ccuillie@arizona.edu), Co-Chair
Tim Ottusch (ottusch@arizona.edu), Committee Member
Next Steps for BNC

COMMUNITY PRESENTATIONS
Currently sharing insights across campus and in select community forums

BASIC NEEDS SYMPOSIUM
Plan to share all data and resources through symposium in Fall 2022 from grant by HSI-CARES Act.
Questions?

BNC Co-Chairs
Dani Carrillo (danicarrillo@arizona.edu)
Bridgette Riebe (bnobbe@arizona.edu)

Affiliated Faculty
Melanie Hingle (hinglem@arizona.edu)
Dan McDonald (mcdonald@cals.arizona.edu)
Diane Ohala (ohalad@arizona.edu)
Tim Ottusch (ottusch@arizona.edu)
Basic Needs Coalition Timeline

April 2019
- UA Basic Needs Coalition formed to support the ABOR Basic Needs Working Group

September 2020
- Benchmarking done with similar institutions to understand how they support students with basic needs insecurity

January 2021
- Survey built in collaboration with coalition members, ASU and NAU

March 2021
- Survey distributed to UA students

June 2021
- Basic Needs Data from UA, ASU and NAU presented to ABOR

October 2021
- Student focus groups
New Academic Program Workflow Form

General

**Proposed Name: Sustainable Mineral Resources**

Transaction Nbr: 00000000000116

Plan Type: Minor

Academic Career: Undergraduate

Degree Offered:

Do you want to offer a minor? N

Anticipated 1st Admission Term: Fall 2022

Details

Department(s):

<table>
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<tr>
<th>DEPTMNT ID</th>
<th>DEPARTMENT NAME</th>
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<tbody>
<tr>
<td>2309</td>
<td>School of Mining and Mineral Resources</td>
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Campus(es):

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<thead>
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</tr>
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<tbody>
<tr>
<td>TUCSON</td>
<td>Tucson</td>
</tr>
</tbody>
</table>

**Admission application terms for this plan:** Spring: Y Summer: Y Fall: Y

**Plan admission types:**

Freshman: Y  Transfer: Y  Readmit: N  Graduate: N

Non Degree Certificate (UCRT only): N

Other (For Community Campus specifics): N

**Plan Taxonomy:** 14.2101, Mining and Mineral Engineering.
Program Length Type: Program Length Value: 0.00

Report as NSC Program:

SULA Special Program:

Print Option:

Diploma: Y Sustainable Mineral Resources
Transcript: Y Sustainable Mineral Resources

Conditions for Admission/Declaration for this Major:
Meet with school advisor or program coordinator; minimum GPA of 2.0

Requirements for Accreditation:
N/A

Program Comparisons

University Appropriateness

The Sustainable Mineral Resources minor supports UA's mission and strategic plan. The minor is focused on developing adaptive learners and innovative problem-solvers who look forward to tackling the world's challenges in meaningful ways that improve society.

The University of Arizona has been a global leader in mining education since 1885, when mining was one of the university's two foundational programs along with agriculture. Today, the university has one of only 12 accredited mining engineering programs in the US and among the only economic geology and mining law programs. UA also has leading programs in other critical disciplines required by mineral resources industries including environmental science, business, data science, social sciences, hydrology, public health, and policy, and a whole host of other engineering disciplines meaning the UA is uniquely placed within the Arizona University System to cross-pollinate mining knowledge with other critical fields to provide the quality, depth and breadth of talent needed. This minor offers the opportunity to improve how we educate and innovate by developing a transdisciplinary education model.

While UA has created and sustained successful proof-of-concept interdisciplinary education programs including the Global Mining Law program, and interdisciplinary research centers such as Center for Environmentally Sustainable Mining, and other highly specialized, solutions-oriented programs like the Geotechnical Center of Excellence, there are more opportunities for growth in this area. In a workshop with 10 faculty, the current state of mining and mineral resources education at UA was described as siloed and unable to attract the quality or diversity of students needed. The group felt UA has
not leveraged existing strengths to nearly its potential. This minor is a step towards bringing transdisciplinary perspectives and adaptive problem-solving to the challenges faced in mining and mineral resources. By rallying students and faculty from various departments, the quality of education improves, the value of various perspectives is acknowledged, and the overall student experience is enhanced.

**Arizona University System**

<table>
<thead>
<tr>
<th>NBR</th>
<th>PROGRAM</th>
<th>DEGREE</th>
<th>#STDNTS</th>
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<td>Arizona State University</td>
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<td>2MS</td>
<td>4</td>
<td>Northern Arizona University</td>
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</table>

**Peer Comparison**

Similar to: The proposed minor program is like the ASU Engineering Management, Minor and the NAU Environmental Engineering, Minor in that all three offer either core or elective courses that delve into some aspects of engineering. The core courses offered through the proposed minor provide high level overviews of engineering and its integration with the mining industry. The other two minors, focus on important topics in engineering that are touched on in the Sustainable Mineral Resources minor. Additionally, each of the other minors is a potential track from which students can choose courses in the Sustainable Mineral Resources minor. The environmental track of the proposed minor covers several of the same topics covered in NAU¿s Environmental Engineering minor including sustainability with land, air, and water. The basic principles and introductory information covered in each is much the same. The leadership and communication track of the proposed minor focuses on communication aspects of leadership and this is briefly touched on in a few of the courses in ASU¿s Engineering Management minor. All three programs can include engineering students in their enrollment. ASU¿s Engineering Management minor and the proposed minor can also include students from other departments.

Different from: The primary difference between the proposed minor and the other Arizona University System programs is the interdisciplinary purpose and structure of the proposed minor. Current mining related programs at each University operate largely independently of other departments, with limited integration or interaction between departments. This represents both a missed opportunity, and a risk. Currently, the courses and advising needed to attract students from important disciplines like hydrology, economics, data science and other engineering disciplines to mining and minerals related studies are not available.
The minor is designed to attract a diverse range of students (diverse in terms of demographics and disciplines) to broaden the aperture of who engages in mineral resources related studies. The minor will build on the introductory/general education course and provide students both holistic context and an opportunity to dive deeper into areas of interest (business and economics, society and policy, health and safety, environment, data analytics and automation, mining and recycling, and leadership and communication) to compliment their degree focus. The minor strives to bring diverse students together to learn to collaborate, problem solve, and communicate with people with different knowledge and perspectives. Ideally, experience with the minor will inspire students to study related topics at depth and explore career opportunities in natural resource development. The minor is envisioned to provide flexible options.

NAU’s minor enrollment is limited to students in science and engineering fields and is, therefore, not reaching the same interdisciplinary audience as the proposed minor. ASU’s program is open to enrollment by students from other departments, however, the intent is to have those students learn specific engineering knowledge. The proposed minor specifically seeks to integrate the knowledge and perspectives from other departments into the mining and mineral resources coursework.

Neither of the other two programs have curriculum specifically designed to pull from the perspectives of students from other disciplines to solve problems in a holistic and innovative way. The proposed minor is intended to have diverse groups of students from various disciplines solve problems by taking into consideration environmental, social, economic, and technical perspectives. Neither of the other two programs have curriculum built in this manner. The structure of integrating numerous disciplines into mining and mineral resources is unique to the proposed minor.

How do these differences make this program more applicable to the target student population and/or a better fit for the University of Arizona? As stated, the minor is designed to attract a diverse range of disciplines. The courses chosen for the minor reflect that diversity. Twenty different departments from eight colleges were brought into this minor to support adaptive learning, enhance the student experience, and achieve the minor’s vision to equip students with the skills needed to work effectively with others from a variety of backgrounds and value the different perspectives others bring to the ever-changing mining industry. In doing so, the target student audience is directly integrated into the coursework itself. The minor becomes more valuable as a more diverse student population enrolls and provides their discipline’s perspective as groups of transdisciplinary students work to problem-solve in more holistic ways.

The University of Arizona strives to drive student success in a rapidly changing world; this minor prepares students with the skills and mind set to be
leaders in the mining industry. The University of Arizona strives to "expand educational opportunities and address important societal changes"; this minor provides opportunities for students to bridge the gap between humans' ever-increasing demand for minerals and societies' changing priorities toward the environment and communities. The University of Arizona strives to "build upon our unique location and people to drive social, cultural and economic impact"; this minor pulls from Arizona's unique mineral-rich setting (recently ranked 2nd in the world for mining jurisdiction attractiveness) and the university's history of leading mining and mineral resources workforce development and preparation to inspire students to innovative sustainable solutions to environmental, technical, social and economic mining and mineral resource challenges. The University of Arizona "aspires to operate as a best in class place to learn" where innovations are encouraged and incorporated; this minor innovates the learning experience itself by intertwining the perspectives from various disciplines in order to achieve learning outcomes. It is the differences of the proposed minor that set it apart from other educational experiences at the University of Arizona.

Faculty & Resources

Faculty

Current Faculty:

<table>
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<tr>
<th>INSTR ID</th>
<th>NAME</th>
<th>DEPT</th>
<th>RANK</th>
<th>DEGREE</th>
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<tr>
<td>01655481</td>
<td>Paul Ferre</td>
<td>0469</td>
<td>Professor</td>
<td>Doctor of Philosophy</td>
<td>.01</td>
</tr>
<tr>
<td>02550093</td>
<td>Bradley Ross</td>
<td>2802</td>
<td>Prof. Pract.</td>
<td>Doctor of Philosophy</td>
<td>.01</td>
</tr>
<tr>
<td>02560413</td>
<td>Isabel Barton</td>
<td>2802</td>
<td>Assit. Prof</td>
<td>Doctor of Philosophy</td>
<td>.01</td>
</tr>
</tbody>
</table>

Additional Faculty:

No additional faculty members anticipated.

Current Student and Faculty FTE is marked zero because this is a new school without any programs. This proposed minor is the first program and includes the first courses for the school/department.

Current Student & Faculty FTE

<table>
<thead>
<tr>
<th>DEPARTMENT</th>
<th>UGRD HEAD COUNT</th>
<th>GRAD HEAD COUNT</th>
<th>FACULTY FTE</th>
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Projected Student & Faculty FTE

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<tbody>
<tr>
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<td>55</td>
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Library
Acquisitions Needed:
No additional library acquisitions are needed during the next three years.

Physical Facilities & Equipment
Existing Physical Facilities:
Current physical facilities and equipment are adequate.

Additional Facilities Required & Anticipated:
No additional physical facilities or equipment are anticipated during the next three years for the proposed program.

Other Support
Other Support Currently Available:
Support currently available for the proposed program include a School of Mining and Mineral Resources Sr Program Coordinator, Program Manager of Lowell Institute for Mineral Resources, Interim Director of the School, and a Minor Curriculum Committee.

Other Support Needed over the Next Three Years:
No additional staff or other assistance needed for this proposed minor over the next three years. Other hires for the School of Mining and Mineral Resources are anticipated (Director, Program Outcome Assessment Professional, and Advisor, but nothing specific to the minor).

Comments During Approval Process
New Academic Program – Minor (Undergraduate)

CURRICULAR INFORMATION

I. MINOR DESCRIPTION:

The Sustainable Mineral Resources minor studies the interconnected issues surrounding the sustainable and responsible production and use of non-renewable mineral resources. Diverse perspectives are provided by faculty from disciplines across the Colleges of Engineering, Science, Social and Behavioral Sciences, Agriculture & Life Sciences, Architecture, Planning & Landscape Architecture, the Eller College of Management, and Mel and Enid Zuckerman College of Public Health. Students engage in experiential learning on technical, economic, social, and environmental issues. Students learn to work with people across disciplines, cultures, and national borders and value differing beliefs as they implement data-driven decision making, effective communication, and critical thinking to bridge the gap between humans’ ever-increasing demand for minerals and societies’ changing priorities toward the environment and communities.

II. JUSTIFICATION/NEED FOR THE MINOR:

Purpose
The minor is designed to attract a diverse range of students (diverse in terms of demographics and disciplines) to broaden the aperture of who engages in mineral resources related studies. The minor will build on the introductory/general education course and provide students both holistic context and an opportunity to dive deeper into areas of interest (business and economics, society and policy, health and safety, environment, data analytics and automation, mining and recycling, and leadership and communication) to complement their degree focus. The minor strives to bring diverse students together to learn to collaborate, problem solve, and communicate with people with different knowledge and perspectives. Ideally, experience with the minor will inspire students to study related topics at depth and explore career opportunities in natural resource development.

Minor Design and Student Progression
The minor is envisioned to provide flexible options while still providing foundational knowledge and shared application of the students’ diverse experiences.

**Building a common foundation:** All students will take six units to provide a broad overview of what society uses mineral resources for and how we obtain them, and issues pertaining to their sustainable development. These courses will introduce students to the technical, economic, social, and environmental aspects of mining and mineral resources, provide them with basic literacy in mining and mineral resources lifecycle, and are intended to help students find their area of interest to select thematic elective track(s). For additional information regarding the content of the core courses and how each core course aligns to the seven tracks, see Appendix II. Students must complete one foundational course prior to progressing to electives (exceptions may be allowed with advisor approval).

**Exploring the intersection of mining and mineral resources with other disciplines through thematic elective tracks:** Thematic tracks will be offered as elective options to students and students will choose nine units from one or two of the tracks: mining and recycling; leadership and
communication; business and economics; data analytics and automation; environmental; health and safety; and society and policy. The purpose of the electives is to help students develop a deeper understanding of the intersection between their own area of study and at least one other subject area. Note that these elective tracks are not officially notated on the student transcript or diploma.

Of the nine units, a minimum of six units must be upper division so students, regardless of track, spend time building higher level skills that can be utilized during the capstone experience and in their future careers. To ensure the comprehensive selection of courses needed to achieve the transdisciplinary and upper and lower division educational goals of this proposed minor, each track includes seven or eight bulleted options for courses. The only exception being the Health and Safety track which has nine bullets because three courses are one unit each. Many of the courses can be cross listed under multiple tracks. While the courses are not duplicated to keep the tracks simplified, students may take courses from two different tracks. The students should discuss alternate tracks for a course when they meet with the school advisor, program coordinator, or program manager.

**Track 1: Mining and Recycling** – Establishes an understanding of the lifecycle of minerals including how minerals are located, mined, processed, used, and recycled. Based on the principle that demand for basic mineral resources to sustain modern society will continue to grow at an ever-faster rate, students need knowledge to apply responsible and innovative techniques as they explore new and alternative mineral frontiers; discover and recover future resources; increase productivity and safety; and advance reclamation and repurposing processes. There are currently no undergraduate recycling courses offered at the University, but the School of Mining and Mineral Resources will build a new course to cover the topic (listed in the Mining and Recycling track below).

**Track 2: Leadership and Communication** – Cultivates skills and tools needed for influencing positive change from within the mining and mineral resource sector and from those impacted by the industry. Built on a foundation of active listening, respect, and cross-cultural understanding, students learn to inspire innovation and lead through influence.

**Track 3: Business and Economics** – Offers students insight into financial, organizational, and market-related factors in the mineral resource industry. As the industry looks to grow in responsible and diverse ways, it is essential to adjust supply to demand variations; recognize indicators of profitability and financial feasibility; weigh the economics of competing land uses; use economic modeling and forecasting; and distribute the economic benefits of mining and recycling.

**Track 4: Data Analytics and Automation** – Equips students with an understanding of the growing role of data science and technology in sustainable production and use of mineral sustainable mineral resource development. The mining industry often relies on sparse and skewed data sets, predictive analytics, and automation such as artificial intelligence, robotics, and software to improve exploration, operations, safety, and environmental impact.

**Track 5: Environmental** – Prepares students to appreciate how mining-related physical and chemical processes may extend beyond the boundaries of a facility and into the environment, and how responsible environmental stewardship requires consideration from multiple perspectives to protect ecosystems, maintain support from communities, and achieve social and environmental justice.
Track 6: Health and Safety – Helps students appreciate the potential adverse effects to the physical well-being of those in mineral resource workplaces, neighboring communities, and the world population. Risks to human health must be monitored, mitigated, and communicated in ways that prevent death, illness, and injury, promote safe and healthy people, and empower individuals.

Track 7: Society and Policy – Builds an understanding of the relations between people, society, and mineral resources, and the decision-making processes in mineral resource extraction. Students will examine interconnections between societies and the extraction and use of natural resources including how different cultures value, access, discuss, and govern resources.

Mining and mineral resources is a broad field that requires many disciplines. Offering multiple tracks provides the students the opportunity to choose the courses that fit their interests and enhances the minor by providing the flexibility needed to incorporate multiple disciplines that impact the sustainability of mining and mineral resources.

Bringing it all together with the capstone experience: At the end of their undergraduate experience in the Minor, students will be challenged to put their knowledge and skills to the test. The purpose of this component is to bring diverse students together to explore real-world issues and debate or problem-solve, with a requirement to address the issue from a holistic perspective, and consider technical, economic, social, and environmental issues. Flexibility is also demonstrated in the capstone experience. Students learn in a multitude of ways and benefit from different types of assessment. There are two capstone pathways. While both capstone options will meet the purpose, the way in which students best demonstrate their learning varies by capstone option.

1. The Team Problem Solving Capstone Course, 3 units, to be developed prior to Fall 2024
   This option challenges students to apply the knowledge and skills they have gained in their program as part of a transdisciplinary project team to solve a complex but realistic problem. The project will be substantial and require the efforts, understanding and input of multiple disciplines. Teams will present their solutions, answer questions, and defend conclusions.

2. Flexible Individual Research /Experiential Learning /Seminar Capstone, units vary, to be developed prior to Fall 2024
   This option offers more flexibility, while providing students of different disciplinary backgrounds the opportunity to come together to learn about and discuss emerging issues in sustainable mineral resources. Students can mix and match any combination of 1-credit options for a total of 3-credits. For example, a student could choose 1 of each, or 3 of one type, a mix of only 2 types.

   Interdisciplinary, Mentored Research Projects
   Students will propose an interdisciplinary research project related to mining and mineral resources and work with a faculty mentor to complete.

   Internships
   Students may complete a semester or summer long internship related to mining and mineral resources with a summary report to a faculty advisor.

   Seminars
Students will have the opportunity to hear guest speakers representing multiple perspectives and stakeholder groups on mining and mineral resources related topics. Students will have writing and/or debate assignments.

The school advisor, program coordinator, program manager, and information available on the school website will help guide students through understanding the tracks and capstone options. This will include explaining information about why specific tracks are important to mining and mineral resources and jobs related to those tracks, and the benefits of each capstone option to a student’s learning experience. This guidance will also include information on enrollment requirements. Many of the courses in this minor have pre-requisites that must be completed prior to enrolling in the course. These pre-requisites will be made clear when assisting students with a progression path in-person or online.

Need
In January 2021, a briefing and feedback session with faculty and researchers from across disciplines explored the idea of integrating many disciplines such as business, public health, and social and environmental sciences into a mining and mineral resources program by rallying students and faculty around real-world challenges rather than a single discipline. The idea was that doing so could not only improve the sustainability and competitiveness of each individual program, but also improve the quality of education, increase research output, bring visibility to an important topic, and enhance the student experience. 86% of responders agreed or strongly agreed that this is an important initiative for the University of Arizona, and 83% of responders agreed or strongly agreed they would like to participate in this initiative.

Additionally, demand for mineral resources is increasing due to global population growth, the shift toward clean energy, increasing reliance on technology, and infrastructure development needs, as well as growing concern over securing domestic supply of the mineral resources we rely on every day. Optimizing supply has never been more important. This includes improving the safety and efficiency and reducing negative environmental and social impacts of primary production (mining), as well as finding new methods of recovering minerals from non-traditional sources (e.g., brines, waste), and overall innovation regarding how we manage resources, how we make and use products, and what we do with the materials afterwards (recycling and circular economy). It is important to note that while advancing the recycling and reuse of minerals can play an important role in meeting demand, mining will still be required to supply critical minerals needed so there is a need to meet remaining primary demand in the most effective, and environmentally and socially responsible manner.

Mineral resources, mining and mining technology are also important to the economic development of the communities that hold the resources, whether in developing nations or right here in Arizona, bringing infrastructure like schools, hospitals, and water treatment facilities to the former (and even in rural US communities), and jobs to both. Ensuring maximum and equitable benefits to communities remains a complex challenge that requires input from multiple disciplines. There are also growing environmental, social and governance concerns over issues like carbon emissions, wise land use, impact to biodiversity and ecosystem services, water and energy consumption, community health and safety, protection of cultural heritage sites near mine sites, and ethical sourcing. Manufacturers of everything from automobiles to cell phones face pressure from investors and consumers to ensure the materials they use are obtained in an ethical and sustainable way.
There is a widening gap between the talent and innovation needed, and what universities provide. Industry interviews coupled with studies commissioned by industry bodies such as Minerals Council Australia and conducted by management consulting firms including Ernst and Young, and Deloitte, as well as articles and publications citing interviews with faculty from global minerals programs were consistent in their conclusions:

1. Mining skills of the future are broader and more sophisticated, requiring more data, systems, social, complex problem solving, and resource management skills in addition to traditional technical skills.
2. There is a perceived widening gap between industry and academia, with universities often seen as operating in isolation.
3. Mining curriculum is seen as outdated, and too narrow, failing to incorporate the latest technology, or emerging critical issues like environmental and social aspects.
4. Research is often seen as irrelevant, or takes too long (not practical to apply, or it is obsolete by the time it is finished).
5. Minerals programs fail to attract the very best talent, and are currently facing critically low enrolments globally, with workforce shortages projected.
6. Finally, siloization and a lack of diversity in the workplace (in both disciplines and demographics) is not only hindering progress and innovation, but is considered a threat. The industry is seeking diverse talent that can work and communicate across boundaries, with critical thinking skills and an appreciation for systems thinking to solve the complex problems of the future.

Looking specifically at the University of Arizona, the following mining and mineral resources specific degrees are available:

- Mining Engineering BS
- Mining, Geological, and Geophysical Engineering MSc, ME, PhD
- Economic Geology MSc, PSM, PhD
- Mining Law and Policy Concentration LLM, MLS
- Mining Engineering minor

With such limited and targeted programs, most University of Arizona students do not get the opportunity to engage with the subject of mineral resources and mining and are therefore not well informed about the materials they use every day and how they are obtained, or related education and career opportunities. According to a University of Arizona study conducted on University of Arizona students:

- 72 percent agree mineral resources are important to their daily lives
- 74 percent are aware Arizona has active mines
- 66 percent are aware the University of Arizona offers a Mining Engineering degree
- 67 percent say they know little to nothing about mining

In addition, a survey to mining industry personnel about this proposed minor conducted in November and December 2021:

- 91.5% of respondents indicated their top interdisciplinary need is for students from different disciplines to understand economic, social, and environmental impacts of mining, and what sustainable development means.

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1 UArizona mining perception study surveys were conducted face-to-face using tablet computers November-December 2019. Sample size =344, confidence level of 95 percent, and margin of error of +/- 5.25 percent.
When asked about soft skills, the following four skills ranked the highest (percentages indicate respondents marked “very important” or “extremely important”)
  o Communicate effectively in a variety of modes (written, verbal, presentation) – 97.4%
  o Listen effectively – 95.5%
  o Solve problems as part of a team – 88.9%
  o Learn to work effectively with others from a variety of backgrounds, and value different perspectives – 88.1%

All elective tracks rated 3.6/5 or higher on importance

When asked how valuable the capstone experience will be for preparing students to enter the workforce, “very valuable” or “extremely valuable” was marked
  o 81.2% of the time when working as a team
  o 66% of the time when working individually

78.5% of respondents “agree” or “agree strongly” that this minor will give students a competitive advantage when getting a job

92.2% of respondents “agree” or “agree strongly” that this minor will better prepare students to participate effectively in the workplace

This minor is a step toward increasing awareness and bridging the gaps and needs found in these studies.

III. MINOR REQUIREMENTS:

| Minimum total units required | 18 |
| Minimum upper-division units required | 9 |
| Total transfer units that may apply to minor | 9 |
| List any special requirements to declare/admission to this minor (completion of specific coursework, minimum GPA, interview, application, etc.) | Meet with department advisor or program coordinator. Minimum GPA of 2.0 |
| Minor requirements. List all required minor requirements including core and electives. Courses listed must include course prefix, number, units, and title. Mark new coursework (New). Include any limits/restrictions needed (house number limit, Cores courses) – Students must complete a minimum of 6 units of core coursework. |
| MNE/ANTH 201 (3 units): Nonrenewable Resources and World Civilizations (Will be modified for new Gen Ed curriculum as Exploring Perspectives in the future) |
| MNE/ENGR 422 (3 units): Perspectives of Sustainability: Supplying Mineral Resources for Society (Current course, but modified and submitted to Gen Ed as Building Connections for Fall 2022) |
| MIN 236 (3 units): Materials, Societies, & Choices (New; submitted to Gen Ed as Exploring Perspectives for Fall 2022) |
etc.). Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department.

<table>
<thead>
<tr>
<th>Elective courses – Students must complete a minimum of 9 units (at least 6 units must be upper division to build on higher level skills development) from up to two tracks.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Track 1: Mining and Recycling</strong></td>
</tr>
<tr>
<td>• GEOS 251 (4 units) Physical Geology</td>
</tr>
<tr>
<td>• GEOS 446 (3 units) Economic Mineral Deposits</td>
</tr>
<tr>
<td>• MNE 205 (3 units) Introduction to Mining Engineering</td>
</tr>
<tr>
<td>• MNE 210 (3 units) Mineralogy and Petrology for Engineers</td>
</tr>
<tr>
<td>• MNE 411 (3 units) Mineral Processing</td>
</tr>
<tr>
<td>• MNE 427 (3-4 units) Geomechanics</td>
</tr>
<tr>
<td>• MSE 450 (3 units) Materials Selection for the Environment</td>
</tr>
<tr>
<td>• MIN XXX: Recycling and Reclamation – To be developed</td>
</tr>
<tr>
<td><strong>Track 2: Leadership and Communication</strong></td>
</tr>
<tr>
<td>• BNAD 302 (3 units) Human Side of Organizations</td>
</tr>
<tr>
<td>• COMM 117 (3 units) Culture and Communications</td>
</tr>
<tr>
<td>• COMM 201: Introduction to Public Relations</td>
</tr>
<tr>
<td>• COMM 312 (3 units) Applied Organizational Communications</td>
</tr>
<tr>
<td>• COMM 404 (3 units) Communications and Leadership</td>
</tr>
<tr>
<td>• ENVS 415 (3 units) Translating Environmental Science</td>
</tr>
<tr>
<td>• PR 423 (3 units) Crisis Communication and Public Relations</td>
</tr>
<tr>
<td><strong>Track 3: Business and Economics</strong></td>
</tr>
<tr>
<td>• ACCT 250 (3 units) Survey of Accounting</td>
</tr>
<tr>
<td>or BNAD 304 (3 units) Survey of Finance</td>
</tr>
<tr>
<td>• GEOG 305 (3 units) Economic Geography</td>
</tr>
<tr>
<td>• GEOG 362 (3 units) Environment and Development</td>
</tr>
<tr>
<td>• MNE 205 (3 units) Introduction to Mining Engineering</td>
</tr>
<tr>
<td>• MNE 430 (3 units) Mine Examination and Valuation</td>
</tr>
<tr>
<td>• MGMT 202 (3 units) Ethical Issues in Business</td>
</tr>
<tr>
<td>or PHIL 322 (3 units) Business Ethics</td>
</tr>
<tr>
<td>• SIE 265 (3 units) Engineering Management I</td>
</tr>
<tr>
<td>• SIE 422 (3 units) Engineering Decision Making Under Uncertainty</td>
</tr>
<tr>
<td><strong>Track 4: Data Analytics and Automation</strong></td>
</tr>
<tr>
<td>• ESOC 214 (3 units) Introduction to Data Science</td>
</tr>
<tr>
<td>• GEOG 222 (3 units) Working with Numeric, Spatial, and Visual Data Fundamental Geographic Techniques</td>
</tr>
<tr>
<td>• GEOS 280 (3 units) Programming and Data Analysis in the Earth Sciences</td>
</tr>
<tr>
<td>• RNR 403 (3 units) Application of Geographic Information Systems</td>
</tr>
<tr>
<td>• ISTA 131 (4 units) Dealing with Data</td>
</tr>
<tr>
<td>• ISTA 321 (4 units) Data Mining and Discovery</td>
</tr>
<tr>
<td>• ISTA 322 (3 units) Data Engineering</td>
</tr>
<tr>
<td><strong>Track 5: Environmental</strong></td>
</tr>
<tr>
<td>• EHS 426 (1 unit) Topics in Environmental Justice</td>
</tr>
<tr>
<td>or ENVS 310 (3 units) Ecosystem Health and Justice</td>
</tr>
<tr>
<td>• ENVS 305 (3 units) Pollution Science</td>
</tr>
<tr>
<td>• ENVS 340 (3 units) Environmental Chemistry</td>
</tr>
<tr>
<td>Course Code</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>ENVS 482</td>
</tr>
<tr>
<td>HWRS 201</td>
</tr>
<tr>
<td>HWRS 350</td>
</tr>
<tr>
<td>PA 484</td>
</tr>
<tr>
<td>SIE 466</td>
</tr>
</tbody>
</table>

**Track 6: Health and Safety**

- EHS 375 (3 units) Introduction to Environmental & Occupational Health
  - or EHS 484 (3 units) Fundamentals of Industrial and Environmental Health
- EHS 418 (3 units) Introduction to Human Risk Assessment
- MNE 424 (3 units) Miner Health: Fitness-for-Duty, Mitigating, Exposures, and Managing Disease Risk
- MNE 423 (3 units) Historic and Contemporary Role of US Regulatory Agencies (OSHA, MSHA, EPA)
  - or PHP 421 (3 units) Introduction to Public Health Law and Ethics
- MNE 297A (1 unit) Underground Mine Safety
- MNE 297B (1 unit) Operation and Maintenance of Heavy Mining Equipment
- MNE 297C (1 unit) Fundamentals of Mine Rescue
- MNE/GEN 426/426A (3 units) Health and Safety in Mining
- MNE 425 (3 units) Mine Emergencies and Disasters: Prevention, Response, and Recovery

**Track 7: Society and Policy**

- AIS 220 (3 units) Contemporary American Indian Issues
  - or GEOG 250 (3 units) Environment and Society in the Southwest Borderlands
- AIS 441A (3 units) Natural Resource Management in Native Communities
  - or ANTH 331 (3 units) Anthropology and Development
- GEOG 462 (3 units) Environmental Law, Geography, and Society
  - or RNR 480 (3 units) Natural Resources Policy and Law
- PA 482 (3 units) Environmental Governance
- PHIL 323 (3 units) Environmental Ethics
- RNR 485 (3 units) The Economics & Social Connections to Natural Resources
- SBE 201 (3 units) Sustainable Design and Planning
- SOC 307 (3 units) Environmental Sociology

**Capstone Options** – Students must complete a minimum of 3 units with at least one unit completed in the final semester of the minor.

- Capstone Course (3 units) MIN 4XX – To be developed
- Seminar 1 (1 unit) MIN 4XX – To be developed
- Seminar 2 (1 unit) MIN 4XX – To be developed
- Seminar 3 (1 unit) MIN 4XX – To be developed
- Research Project (1 unit) MIN 4XX – To be developed
- Internship (1-2 units) MIN 4XX – To be developed

Internship, practicum, applied course requirements (Yes/No). If yes, provide description.

Students have the option to complete an internship, seminars, research project, or capstone course. The internship option requires alignment with the interdisciplinary goal of the School and must be work outside of their home (major) department.

Additional requirements (provide description)

Substituting Courses – Substitutions are allowed for elective courses but must be approved by a school advisor, program coordinator, or program manager.

See appendix 1 for examples of student progression through the minor.

Any double-dipping restrictions (Yes/No)? If yes, provide description.

No. Students are encouraged but not required to take courses from outside their major and other minors.

IV. **NEW COURSES NEEDED:** If new courses are required for the proposed program, **UA Course Add forms** must be submitted before/simultaneously with this proposal. List all course additions in progress in the table below. Add rows as needed.

<table>
<thead>
<tr>
<th>Course prefix and number (include cross-listings)</th>
<th>Units</th>
<th>Title</th>
<th>Pre-requisites</th>
<th>Modes of delivery (online, in-person, hybrid)</th>
<th>Course Fee? (Y/N)</th>
<th>Anticipated first term offered</th>
<th>Use in the program (required/elective)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIN 236</td>
<td>3</td>
<td>Materials, Societies, &amp; Choices</td>
<td>None</td>
<td>In-person</td>
<td>N</td>
<td>Fall 2022</td>
<td>Required</td>
</tr>
<tr>
<td>MIN 4XX– To be developed</td>
<td>3</td>
<td>Capstone Course</td>
<td>None</td>
<td>In-person</td>
<td>N</td>
<td></td>
<td>Required – See section, “Internship, practicum,...” above for details</td>
</tr>
<tr>
<td>MIN 4XX – To be developed</td>
<td>1</td>
<td>Seminar 1</td>
<td>None</td>
<td>In-person</td>
<td>N</td>
<td>Fall 2023</td>
<td>Required – See section, “Internship, practicum,...” above for details</td>
</tr>
<tr>
<td>MIN 4XX – To be developed</td>
<td>1</td>
<td>Seminar 2</td>
<td>None</td>
<td>In-person</td>
<td>N</td>
<td>Fall 2023</td>
<td>Required – See section, “Internship, practicum,...” above for details</td>
</tr>
<tr>
<td>MIN 4XX – To be developed</td>
<td>1</td>
<td>Seminar 3</td>
<td>None</td>
<td>In-person</td>
<td>N</td>
<td>Fall 2023</td>
<td>Required – See section,</td>
</tr>
<tr>
<td>Course Code</td>
<td>Credits</td>
<td>Course Type</td>
<td>Prerequisites</td>
<td>Delivery</td>
<td>Offering Year</td>
<td>Year Required</td>
<td>Notes</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
<td>-------------</td>
<td>---------------</td>
<td>---------</td>
<td>---------------</td>
<td>--------------</td>
<td>-------</td>
</tr>
<tr>
<td>MIN 4XX – To be developed</td>
<td>1</td>
<td>Research Project</td>
<td>None</td>
<td>N/A</td>
<td>N</td>
<td>Fall 2023</td>
<td>Required – See section, “Internship, practicum....” above for details</td>
</tr>
<tr>
<td>MIN 4XX – To be developed</td>
<td>1-3</td>
<td>Internship</td>
<td>None</td>
<td>N/A</td>
<td>N</td>
<td>Fall 2023</td>
<td>Required – See section, “Internship, practicum....” above for details</td>
</tr>
<tr>
<td>MIN XXX – To be developed</td>
<td>3</td>
<td>Recycling and Reclamation</td>
<td>None</td>
<td>In-person</td>
<td>N</td>
<td>Fall 2024</td>
<td>Elective</td>
</tr>
</tbody>
</table>

Subject description for new prefix (if requested). Include your requested/preferred prefix, if any: MIN (School of Mining and Mineral Resources)

V. **Learning Outcomes** - Complete this table as a summary of the learning outcomes from your assessment plan, using these examples as a model. If you need assistance completing this table and/or the Curriculum Map, please see the resources at the Office of Instruction and Assessment or contact them here.

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learning Outcome #1</strong></td>
<td>Students will incorporate verbal and written strategies including active listening to share information, defend ideas clearly and correctly, and learn from others.</td>
</tr>
<tr>
<td><strong>Concepts:</strong></td>
<td>Students will apply active listening skills during transdisciplinary discussions on mineral resources and share and defend mining and mineral resource information and ideas using verbal and written communication.</td>
</tr>
<tr>
<td><strong>Competencies:</strong></td>
<td>Students will apply effective communication.</td>
</tr>
<tr>
<td><strong>Learning Outcome #2</strong></td>
<td>Students will design and assess evidence, inferences, assumptions, values, purposes, conclusions, and solutions of their own and others’ inquiries through the lens of multiple disciplines.</td>
</tr>
<tr>
<td><strong>Concepts:</strong></td>
<td>Students will incorporate multiple discipline’s perspectives when solving a central mining and mineral resources problem. Students will assess and challenge their own and others’ thoughts.</td>
</tr>
<tr>
<td><strong>Competencies:</strong></td>
<td>Students will apply critical thinking skills.</td>
</tr>
<tr>
<td><strong>Learning Outcome #3</strong></td>
<td>Students will recognize economically, socially, and environmentally sustainable impacts of the mineral resources lifecycle from the initial need to results over time.</td>
</tr>
<tr>
<td><strong>Concepts:</strong></td>
<td>Students will apply the mineral resources’ lifecycle to challenges and issues in the mining industry.</td>
</tr>
<tr>
<td><strong>Competencies:</strong></td>
<td>Students will understand the mineral resources’ lifecycle.</td>
</tr>
<tr>
<td><strong>Learning Outcome #4</strong></td>
<td>Students will advocate for their discipline’s perspective with clear and relevant support while integrating the diverse opinions and ideas of other disciplines within the same context.</td>
</tr>
<tr>
<td><strong>Concepts:</strong></td>
<td>Students will integrate their own perspective on mineral resources with other perspectives on mineral resources to develop a more holistic view. Students will integrate their own expertise into an interdisciplinary setting.</td>
</tr>
<tr>
<td><strong>Competencies:</strong></td>
<td>Students will integrate interdisciplinary literacy.</td>
</tr>
<tr>
<td><strong>Learning Outcome #5</strong></td>
<td>Students will evaluate the reliability and validity of data and information from a variety of sources and perspectives, including gaps and biases, and ask questions that lead to accurate, actionable insights.</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Concepts:</strong></td>
<td>Students will synthesize information from multiple disciplines to develop a more holistic view of mineral resources. Students will evaluate data from diverse sources to better understand mining and mineral resources.</td>
</tr>
<tr>
<td><strong>Competencies:</strong></td>
<td>Students will evaluate data and information.</td>
</tr>
</tbody>
</table>
VI. REQUIRED SIGNATURES

Program Director (print name): Brad Ross

Program Director signature: Brad Ross
Date: Feb 7, 2022

College of Science

Associate Dean (print name): Rebecca Gomez

Associate Dean’s signature: Rebecca Gomez
Date: Feb 7, 2022

Dean (print name): Carmala Garzione

Dean’s signature: Carmala Garzione
Date: Feb 7, 2022

Associate Dean (print name): Jim Baygents

Associate Dean’s signature: Jim Baygents
Date: Feb 7, 2022

Dean (print name): David Hahn

Dean’s signature: David Hahn
Date: Feb 7, 2022
For use by Curricular Affairs:

Undergraduate:

<table>
<thead>
<tr>
<th>Committee</th>
<th>Approval date</th>
</tr>
</thead>
<tbody>
<tr>
<td>APS</td>
<td></td>
</tr>
<tr>
<td>Undergraduate Council</td>
<td></td>
</tr>
<tr>
<td>Undergraduate College Academic</td>
<td></td>
</tr>
<tr>
<td>Administrators Council</td>
<td></td>
</tr>
<tr>
<td>Faculty Senate</td>
<td></td>
</tr>
</tbody>
</table>

Undergraduate:

<table>
<thead>
<tr>
<th>Committee</th>
<th>Approval date</th>
</tr>
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<tbody>
<tr>
<td>APS</td>
<td></td>
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<tr>
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<td>Faculty Senate</td>
<td></td>
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"NewAcadPrgm_Minor_UG_21_SustainableMineralResourcesFinal" History

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Attachment: Reallocation of existing College funds

In June 2021, the Arizona Board of Regents approved the new School of Mining and Mineral Resources. The proposal included the expectation to develop a new transdisciplinary minor including new coursework. As such, the intent was to use School funding to help support the new minor. Some of the expenditures for faculty and other personnel, employee related expenses, graduate assistantships, and operations (materials, supplies, phones, etc.) were intended to be spent on the start up of this proposed minor. The following breaks down the costs covered by reallocating these existing College funds.

<table>
<thead>
<tr>
<th>Total reallocated from School budget</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Years 4/5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>$65,400</td>
<td>$0</td>
<td>$0</td>
<td>No money reallocated in year 4 or beyond as Funding will offset all Expenditures.</td>
</tr>
<tr>
<td>Other Personnel</td>
<td>$20,000</td>
<td>$11,600</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Employee Related Expenses</td>
<td>$31,300</td>
<td>$38,420</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Graduate Assistantships</td>
<td>$14,000</td>
<td>$28,000</td>
<td>$20,000</td>
<td></td>
</tr>
<tr>
<td>Operations (materials, supplies, phones, etc.)</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
<td></td>
</tr>
</tbody>
</table>
Name of Proposed Program or Unit: Sustainable Mineral Resources minor

Budget Contact Person: Suzanne Madrigal

<table>
<thead>
<tr>
<th>METRICS</th>
<th>1st Year 2022 - 2023</th>
<th>2nd Year 2023 - 2024</th>
<th>3rd Year 2024 - 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net increase in annual college enrollment UG</td>
<td>30</td>
<td>55</td>
<td>75</td>
</tr>
<tr>
<td>Net increase in college SCH UG</td>
<td>180</td>
<td>495</td>
<td>900</td>
</tr>
<tr>
<td>Net increase in annual college enrollment Grad</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Net increase in college SCH Grad</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Number of enrollments being charged a Program Fee</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>New Sponsored Activity (MTDC)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Number of Faculty FTE</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**FUNDING SOURCES**

**Continuing Sources**

<table>
<thead>
<tr>
<th>Source</th>
<th>1st Year 2022 - 2023</th>
<th>2nd Year 2023 - 2024</th>
<th>3rd Year 2024 - 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG RCM Revenue (net of cost allocation)</td>
<td>30,600</td>
<td>84,150</td>
<td>153,000</td>
</tr>
<tr>
<td>Grad RCM Revenue (net of cost allocation)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Program Fee RCM Revenue (net of cost allocation)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>F and A Revenues (net of cost allocations)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>UA Online Revenues</td>
<td>-</td>
<td>38,250</td>
<td>51,000</td>
</tr>
<tr>
<td>Distance Learning Revenues</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reallocation from existing College funds (attach description)</td>
<td>132,700</td>
<td>80,020</td>
<td>22,000</td>
</tr>
<tr>
<td>Other Items (attach description)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Continuing</strong></td>
<td><strong>$ 163,300</strong></td>
<td><strong>$ 202,420</strong></td>
<td><strong>$ 226,000</strong></td>
</tr>
</tbody>
</table>

**One-time Sources**

<table>
<thead>
<tr>
<th>Source</th>
<th>1st Year 2022 - 2023</th>
<th>2nd Year 2023 - 2024</th>
<th>3rd Year 2024 - 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>College fund balances</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Institutional Strategic Investment</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gift Funding</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other Items (attach description)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total One-time</strong></td>
<td><strong>$ -</strong></td>
<td><strong>$ -</strong></td>
<td><strong>$ -</strong></td>
</tr>
</tbody>
</table>

**TOTAL SOURCES**

<table>
<thead>
<tr>
<th>Source</th>
<th>1st Year 2022 - 2023</th>
<th>2nd Year 2023 - 2024</th>
<th>3rd Year 2024 - 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Continuing</strong></td>
<td><strong>$ 163,300</strong></td>
<td><strong>$ 202,420</strong></td>
<td><strong>$ 226,000</strong></td>
</tr>
</tbody>
</table>

**EXPENDITURE ITEMS**

**Continuing Expenditures**

<table>
<thead>
<tr>
<th>Item</th>
<th>1st Year 2022 - 2023</th>
<th>2nd Year 2023 - 2024</th>
<th>3rd Year 2024 - 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>96,000</td>
<td>114,000</td>
<td>132,000</td>
</tr>
<tr>
<td>Other Personnel</td>
<td>20,000</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Employee Related Expense</td>
<td>31,300</td>
<td>38,420</td>
<td>44,000</td>
</tr>
<tr>
<td>Graduate Assistantships</td>
<td>14,000</td>
<td>28,000</td>
<td>28,000</td>
</tr>
<tr>
<td>Other Graduate Aid</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Operations (materials, supplies, phones, etc.)</td>
<td>2,000</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Additional Space Cost</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other Items (attach description)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Continuing</strong></td>
<td><strong>$ 163,300</strong></td>
<td><strong>$ 202,420</strong></td>
<td><strong>$ 226,000</strong></td>
</tr>
</tbody>
</table>

**One-time Expenditures**

<table>
<thead>
<tr>
<th>Item</th>
<th>1st Year 2022 - 2023</th>
<th>2nd Year 2023 - 2024</th>
<th>3rd Year 2024 - 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction or Renovation</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Start-up Equipment</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Replace Equipment</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Library Resources</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other Items (attach description)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total One-time</strong></td>
<td><strong>$ -</strong></td>
<td><strong>$ -</strong></td>
<td><strong>$ -</strong></td>
</tr>
</tbody>
</table>

**TOTAL EXPENDITURES**

<table>
<thead>
<tr>
<th>Source</th>
<th>1st Year 2022 - 2023</th>
<th>2nd Year 2023 - 2024</th>
<th>3rd Year 2024 - 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Continuing</strong></td>
<td><strong>$ 163,300</strong></td>
<td><strong>$ 202,420</strong></td>
<td><strong>$ 226,000</strong></td>
</tr>
</tbody>
</table>

Net Projected Fiscal Effect

<table>
<thead>
<tr>
<th>Source</th>
<th>1st Year 2022 - 2023</th>
<th>2nd Year 2023 - 2024</th>
<th>3rd Year 2024 - 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Projected Fiscal Effect</strong></td>
<td><strong>$ -</strong></td>
<td><strong>$ -</strong></td>
<td><strong>$ -</strong></td>
</tr>
</tbody>
</table>
Select three peers (if possible/applicable) for completing the comparison chart from **ABOR-approved institutions, AAU members**, and/or other relevant institutions recognized in the field. The comparison programs are not required to have the same degree type and/or title as the proposed UA program. Information for the proposed UA program must be consistent throughout the proposal documents. Minors and Certificates may opt to include only 2 peer comparisons.

**Note:** Comparisons to two University of Arizona undergraduate minors (Climate Change and Society and Mining Engineering) are available upon request.

<table>
<thead>
<tr>
<th>Program name, degree, and institution</th>
<th>UArizona Sustainable Mineral Resources, Undergraduate Minor</th>
<th>ASU Engineering Management, Minor</th>
<th>NAU Environmental Engineering, Undergraduate Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current number of students enrolled</td>
<td>52</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Program Description</td>
<td>The Sustainable Mineral Resources minor studies the interconnected issues surrounding the sustainable and responsible production and use of non-renewable mineral resources. Quality faculty from diverse disciplines, provide unique and equally valuable perspectives and experiential learning on technical, economic, social, and environmental issues. Students learn to work effectively with and value the differences of people from a variety of backgrounds and beliefs as they implement data-driven decision making, effective communication, and critical thinking to bridge the gap between humans’ ever-increasing demand for minerals and societies’ changing priorities toward the environment and communities.</td>
<td>The minor in engineering management program provides students with the skills for effective management and leadership of engineering-driven enterprises. The minor curriculum supplements students’ majors by adding to the breadth of engineering science and design and equipping the student with additional management and design skills. This knowledge is augmented with an understanding of business practices, organizational behavior and management skills to enable the student to succeed in the management of a scientific or engineering enterprise. Topics such as project and resource management, financial engineering, risk management, configuration management, service plans, product liability, entrepreneurship and operations management are covered, in addition to product design and process development.</td>
<td>This minor is designed for other engineering majors or plans that emphasize math and science and provides environmental engineering fundamentals with an emphasis on solving air, water, waste and health problems. A minor in environmental engineering complements your major in engineering or science by providing the fundamentals of the discipline, adding breadth to your knowledge base. Students with majors in environmental science, chemistry, physics, biology, geology, forestry, mechanical engineering, electrical engineering or computer science are candidates for this minor. Content includes basic unit operations of environmental engineering, material balance, fate and transport in soils, equilibrium and water process design, experiments in water or soil media, plus electives in soil/hazardous waste management, air quality/treatment, biological</td>
</tr>
</tbody>
</table>
This additional knowledge increases your opportunities for a wider range of employment or graduate school options.

Upon graduation, students will have developed the following:

An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

<table>
<thead>
<tr>
<th>Target Careers</th>
<th>Any careers within the mining industry (mining engineering, other engineering, hydrology, data science, business, economics, social sciences, public health, environmental health, government, etc.)</th>
<th>Can help students pursuing careers in engineering and business fields gain valuable skills in management for engineering-related professions</th>
<th>Engineering or science careers who work with Environmental concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emphases? (Yes/No)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>List, if applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum # of units required</td>
<td>18</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>Level of Math required (if applicable)</td>
<td>Nothing specific although some elective courses may require math pre-requisites</td>
<td>MAT 265 and MAT 266 (or an equivalent calculus sequence) with a grade of &quot;C&quot; or better in each</td>
<td>MAT 137 – Calculus II</td>
</tr>
<tr>
<td>Level of Second Language required (if applicable)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Pre-Major? (Yes/No) If yes, provide requirements.</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Special requirements to declare/gain admission? (i.e. pre-requisites, GPA, application, etc.)</td>
<td>Meet with academic advisor or program coordinator</td>
<td>Students who are not required to take IEE 380 as part of their major requirements should plan to take it for the minor instead of IEE 220 to be eligible for more required electives.</td>
<td>Cumulative GPA of at least 2.0</td>
</tr>
</tbody>
</table>
Interested students should consult with a School of Computing, Informatics and Decision Systems Engineering advisor to verify eligibility and to review all courses required for the minor.

| Internship, practicum, or applied/experiential requirements? If yes, describe. | Internship is an option for 1-3 units but it is not a requirement | Yes | No |

Additional questions:

1. How does the proposed program align with peer programs? Briefly summarize the similarities between the proposed program and peers, which could include curriculum, overall themes, faculty expertise, intended audience, etc.

   The proposed minor program is like the ASU Engineering Management, Minor and the NAU Environmental Engineering, Minor in that all three offer either core or elective courses that delve into some aspects of engineering. The core courses offered through the proposed minor provide high level overviews of engineering and its integration with the mining industry. The other two minors, focus on important topics in engineering that are touched on in the Sustainable Mineral Resources minor. Additionally, each of the other minors is a potential track from which students can choose courses in the Sustainable Mineral Resources minor. The environmental track of the proposed minor covers several of the same topics covered in NAU’s Environmental Engineering minor including sustainability with land, air, and water. The basic principles and introductory information covered in each is much the same. The leadership and communication track of the proposed minor focuses on communication aspects of leadership and this is briefly touched on in a few of the courses in ASU’s Engineering Management minor.

   All three programs can include engineering students in their enrollment. ASU’s Engineering Management minor and the proposed minor can also include students from other departments.

2. How does the proposed program stand out or differ from peer programs? Briefly summarize the differences between the proposed program and peers, which could include curriculum, overall themes, faculty expertise, intended audience, etc.
The primary difference between the proposed minor and the other Arizona University System programs is the interdisciplinary purpose and structure of the proposed minor. Current mining related programs at each University operate largely independently of other departments, with limited integration or interaction between departments. This represents both a missed opportunity, and a risk. Currently, the courses and advising needed to attract students from important disciplines like hydrology, economics, data science and other engineering disciplines to mining and minerals related studies are not available. The minor is designed to attract a diverse range of students (diverse in terms of demographics and disciplines) to broaden the aperture of who engages in mineral resources related studies. The minor will build on the introductory/general education course and provide students both holistic context and an opportunity to dive deeper into areas of interest (business and economics, society and policy, health and safety, environment, data analytics and automation, mining and recycling, and leadership and communication) to compliment their degree focus. The minor strives to bring diverse students together to learn to collaborate, problem solve, and communicate with people with different knowledge and perspectives. Ideally, experience with the minor will inspire students to study related topics at depth and explore career opportunities in natural resource development. The minor is envisioned to provide flexible options.

NAU’s minor enrollment is limited to students in science and engineering fields and is, therefore, not reaching the same interdisciplinary audience as the proposed minor. ASU’s program is open to enrollment by students from other departments, however, the intent is to have those students learn specific engineering knowledge. The proposed minor specifically seeks to integrate the knowledge and perspectives from other departments into the mining and mineral resources coursework.

Neither of the other two programs have curriculum specifically designed to pull from the perspectives of students from other disciplines to solve problems in a holistic and innovative way. The proposed minor is intended to have diverse groups of students from various disciplines solve problems by taking into consideration environmental, social, economic, and technical perspectives. Neither of the other two programs have curriculum built in this manner. The structure of integrating numerous disciplines into mining and mineral resources is unique to the proposed minor.

3. How do these differences make this program more applicable to the target student population and/or a better fit for the University of Arizona?

As stated, the minor is designed to attract a diverse range of disciplines. The courses chosen for the minor reflect that diversity. Twenty different departments from eight colleges were brought into this minor to support adaptive learning, enhance the student experience, and achieve the minor’s vision to equip students with the skills needed to work effectively
with others from a variety of backgrounds and value the different perspectives others bring to the ever-changing mining industry. In doing so, the target student audience is directly integrated into the coursework itself. The minor becomes more valuable as a more diverse student population enrolls and provides their discipline’s perspective as groups of transdisciplinary students work to problem-solve in more holistic ways.

The University of Arizona strives to “drive student success in a rapidly changing world”\(^1\); this minor prepares students with the skills and mind set to be leaders in the mining industry. The University of Arizona strives to “expand educational opportunities and address important societal changes”\(^1\); this minor provides opportunities for students to bridge the gap between humans’ ever-increasing demand for minerals and societies’ changing priorities toward the environment and communities. The University of Arizona strives to “build upon our unique location and people to drive social, cultural and economic impact”\(^1\); this minor pulls from Arizona’s unique mineral-rich setting (recently ranked 2\(^{nd}\) in the world for mining jurisdiction attractiveness\(^2\)) and the university’s history of leading mining and mineral resources workforce development and preparation to inspire students to innovate sustainable solutions to environmental, technical, social and economic mining and mineral resource challenges. The University of Arizona “aspires to operate as a best in class place to learn...where innovations are encouraged and incorporated”\(^1\); this minor innovates the learning experience itself by intertwining the perspectives from various disciplines in order to achieve learning outcomes. It is the differences of the proposed minor that set it apart from other educational experiences at the University of Arizona.

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\(^1\) The University of Arizona, 2021, Strategic Plan: Overview of Pillars, The University of Arizona (https://strategicplan.arizona.edu/overview-pillars)

Appendix 1 - Example Student Progression

Example 1 – Society & Policy Track with Internship and Seminar

<table>
<thead>
<tr>
<th>Semest</th>
<th>Course Prefix: Title</th>
<th>Units</th>
<th>Type</th>
<th>Track</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>MNE/ANTH 201: Nonrenewable Resources and World Civilizations</td>
<td>3</td>
<td>Core</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>GEOG 250: Environment and Society in the Southwest Borderlands</td>
<td>3</td>
<td>Elective</td>
<td>Society &amp; Policy</td>
</tr>
<tr>
<td>Spring</td>
<td>MIN 236: Materials, Societies, and Choices</td>
<td>3</td>
<td>Core</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>RNR 485: The Economics &amp; Social Connections to Natural Resources</td>
<td>3</td>
<td>Elective</td>
<td>Society &amp; Policy</td>
</tr>
<tr>
<td>Spring</td>
<td>PA 482: Environmental Governance</td>
<td>3</td>
<td>Elective</td>
<td>Society &amp; Policy</td>
</tr>
<tr>
<td>Summer</td>
<td>MIN 4XX: Internship</td>
<td>2</td>
<td>Internship</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>MIN 4XX: Seminar #2</td>
<td>1</td>
<td>Seminar</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>18 (9 upper division)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example 2 – Mining & Recycling and Leadership and Communication Tracks with Capstone

<table>
<thead>
<tr>
<th>Semest</th>
<th>Course Prefix: Title</th>
<th>Units</th>
<th>Type</th>
<th>Track</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>MIN 236: Materials, Societies, and Choices</td>
<td>3</td>
<td>Core</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>MNE 205: Introduction to Mining Engineering</td>
<td>3</td>
<td>Elective</td>
<td>Mining &amp; Recycling</td>
</tr>
<tr>
<td>Spring</td>
<td>PR 423: Crisis Communication and Public Relations</td>
<td>3</td>
<td>Elective</td>
<td>Leadership &amp; Communication</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>MIN 422: Perspectives of Sustainability: Supplying Mineral Resources for Society</td>
<td>3</td>
<td>Core</td>
<td>N/A</td>
</tr>
<tr>
<td>Spring</td>
<td>COMM 404: Communications and Leadership</td>
<td>3</td>
<td>Elective</td>
<td>Leadership &amp; Communication</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>MIN 4XX: Capstone Course</td>
<td>3</td>
<td>Capstone</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>18 (12 upper division)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix II. Core Course alignment to tracks

The core courses provide students with a broad overview of what society uses mineral resources for and how we obtain them, and issues pertaining to their sustainable development. These courses will introduce students to the technical, economic, social, and environmental aspects of mining and mineral resources, and provide them with basic literacy in mining and mineral resources lifecycle. Each course is briefly described below.

MNE 201 covers the ways humans have extracted and used nonrenewable resources over time, the ways that resource use has shaped the development of civilizations, and how societies have been influenced by the uneven natural distribution of nonrenewable resources. Other topics include resource exhaustion, space mining, resource substitution and associated energy costs, unintended social and environmental consequences of nonrenewable resource extraction and use.

MIN 236 covers decision-making in the context of the diverse types and uses of earth materials, their full life cycles, and the challenges that arise from the many needs and perspectives of users, producers, and myriad other stakeholders. The course also introduces and applies decision science to the issues of meeting resource needs in the most environmentally sustainable, equitable, and affordable ways possible.

MNE 422 covers modern sustainable development issues in supplying mineral resources for today’s society. Through environmental, societal, and economic perspectives, students consider complex and inter-related sustainable development issues applicable to many disciplines within the context of supplying minerals for society. The course also covers sustainable development issues in industrialized and developing nations and communities, and the environment in which they operate.

Each of these courses is intended to help students find their area of interest to select thematic elective track(s). To meet the needs of multiple tracks, each core course introduces concepts that will be covered in most of the tracks. The elective tracks themselves develop skills that can contribute to solving mining and mineral resource issues. Below is a table showing which core courses align with each track.

<table>
<thead>
<tr>
<th></th>
<th>Mining &amp; Recycling</th>
<th>Leadership &amp; Communication</th>
<th>Business &amp; Economic</th>
<th>Data Analytics &amp; Automation</th>
<th>Environmental</th>
<th>Health &amp; Safety</th>
<th>Society &amp; Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>MNE 201</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MIN 236</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MNE 422</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
The knowledge gained from the core and elective courses is then applied to a capstone experience where students work in a transdisciplinary team to solve a mining-related problem. The figure below shows the connection between the core courses, elective courses, and capstone experience.

**Core**
Build a foundational understanding of mining and mineral resources in context of the overall society

**Electives**
Develop skills that can contribute to solving a mining and mineral resource issue

**Capstone**
Work in a transdisciplinary team to solve a mining related issue

followed by a list of how the core course’s objectives align to each track.

**Core course objectives alignment to each track**
Mining and Recycling

**MNE 201** – Students will understand the basic scientific, engineering, social, and economic factors in the extraction and use of coal, hydrocarbons, metals, industrial minerals, and other nonrenewable resources.

**MIN 236** – Students will learn the basics of industrial ecology by understanding where the materials used in modern society come from, how they (re-)cycle through society, where they eventually end up, and the impacts of extraction, manufacturing, recycling, and disposal on local, regional, and national communities.

**MIN 236** – Students will apply decision science to questions of materials procurement, use, recycling, and disposal, including geological, engineering, economic, social, policy, and equity factors.

**MIN 236** – Students will evaluate the trade-offs involved in decisions about material resources from a socially informed industrial ecology perspective.

**MNE 422** – Students will build a basic understanding of the mining and mineral resources sustainability issues and how they differ between industrial and developing nations for issues such as renewable energy, water, communities, stakeholders, outrage, and risk.

Leadership and Communication

**MIN 236** – Students will apply decision science to questions of materials procurement, use, recycling, and disposal, including geological, engineering, economic, social, policy, and equity factors.

**MNE 422** – Students will develop an understanding of different global perspectives of mining and mineral resources sustainability issues from areas such as community, industry, business, NGO, and government.

**MNE 422** – Students will practice teamwork across multiple disciplines by working within small groups to compare and contrast sustainability issues for different projects.

**MNE 422** – Students will compose multiple business communications on a variety of sustainability topics.

**MNE 422** – Students will expand oral communications skills by making in class presentations.

Business and Economics

**MNE 201** – Students will understand the basic scientific, engineering, social, and economic factors in the extraction and use of coal, hydrocarbons, metals, industrial minerals, and other nonrenewable resources.

**MIN 236** – Students will articulate how social, cultural, and economic as well as material factors determine attitudes toward the extraction, use, reuse, and disposal of materials in the modern US.

**MIN 236** – Students will apply decision science to questions of materials procurement, use, recycling, and disposal, including geological, engineering, economic, social, policy, and equity factors.

**MNE 422** – Students will develop an understanding of different global perspectives of mining and mineral resources sustainability issues from areas such as community, industry, business, NGO, and government.
MNE 422 – Students will build a basic understanding of the mining and mineral resources sustainability issues and how they differ between industrial and developing nations for issues such as renewable energy, water, communities, stakeholders, outrage, and risk.

**Data Analytics and Automation**

MNE 201 – Students will understand the basic scientific, engineering, social, and economic factors in the extraction and use of coal, hydrocarbons, metals, industrial minerals, and other nonrenewable resources.

MIN 236 – Students will apply decision science to questions of materials procurement, use, recycling, and disposal, including geological, engineering, economic, social, policy, and equity factors.

**Environmental**

MNE 201 – Students will critically evaluate the consequences of resource extraction, use, and depletion for modern and future human society and the environment.

MIN 236 – Students will identify what renewable/green materials can and cannot be substituted for nonrenewable/environmentally damaging materials and why.

MIN 236 – Students will articulate how social, cultural, and economic as well as material factors determine attitudes toward the extraction, use, reuse, and disposal of materials in the modern US.

MIN 236 – Students will evaluate the trade-offs involved in decisions about material resources from a socially informed industrial ecology perspective.

MNE 422 – Students will develop an understanding of different global perspectives of mining and mineral resources sustainability issues from areas such as community, industry, business, NGO, and government.

MNE 422 – Students will build a basic understanding of the mining and mineral resources sustainability issues and how they differ between industrial and developing nations for issues such as renewable energy, water, communities, stakeholders, outrage, and risk.

**Health and Safety**

MIN 236 – Students will evaluate the trade-offs involved in decisions about material resources from a socially informed industrial ecology perspective.

MIN 236 – Students will learn the basics of industrial ecology by understanding where the materials used in modern society come from, how they (re-)cycle through society, where they eventually end up, and the impacts of extraction, manufacturing, recycling, and disposal on local, regional, and national communities.

MNE 422 – Students will develop an understanding of different global perspectives of mining and mineral resources sustainability issues from areas such as community, industry, business, NGO, and government.

**Society and Policy**
MNE 201 – Students will compare and contrast the ways in which different human societies have used and valued natural resources over history
MNE 201 – Students will analyze how the evolution of human societies over time has been influenced by the distribution, extraction, and use of nonrenewable resources, through trade, technology, and conflict
MIN 236 – Students will identify historical and modern inequities in access to, extraction of, and distribution of mineral resources, and propose action that could address them
MIN 236 – Students will articulate how social, cultural, and economic as well as material factors determine attitudes toward the extraction, use, reuse, and disposal of materials in the modern US
MIN 236 – Students will apply decision science to questions of materials procurement, use, recycling, and disposal, including geological, engineering, economic, social, policy, and equity factors
MNE 422 – Students will develop an understanding of different global perspectives of mining and mineral resources sustainability issues from areas such as community, industry, business, NGO, and government
MNE 422 – Students will build a basic understanding of the mining and mineral resources sustainability issues and how they differ between industrial and developing nations for issues such as renewable energy, water, communities, stakeholders, outrage, and risk
10 November 2021

Suzanne Switzer Madrigal  
Sr Program Coordinator  
School of Mining and Mineral Resources  
University of Arizona  
-CAMPUS-

Dear Suzanne:

With this memo we seek to memorialize an agreement between the University of Arizona Department of Communication and College of Engineering’s new School of Mining and Mineral Resources. The School is developing a thematic minor with a Leadership and Communication track for which they seek access to the following Communication courses for students in the track:

- COMM 117: Culture and Communication
- COMM 119: Public Speaking
- COMM 201: Introduction to Public Relations
- COMM 312: Applied Organizational Communication
- COMM 404: Communication and Leadership
- PR 423: Crisis Communication and Public Relations

As we discussed, the Communication Department has an obligation to reserve the majority of seats in these courses for declared majors. However, once Communication majors have had the opportunity to enroll, we would welcome Mining and Mineral Resources students into these classes.

Mining students in the Communication and Leadership minor will have access to enrollment after priority registration in Fall and Spring semesters in all listed courses except COMM 119 and COMM 201, which are open to all students. Students will work with their advisors and will be manually enrolled in open seats by the Undergraduate Program Coordinator in the Communication Department.

As always, it is a best practice to let your students know that when they enroll in upper division Communication courses, they are likely to find themselves in a learning environment with other students with considerably more preparation and training in the discipline. This is not to imply that your students are unlikely to do well in these courses, but simply that not having the core courses in the discipline (i.e., COMM 101, 228, 300) could create a competitive disadvantage for some. At the
same time, we feel confident that all of the aforementioned courses will provide excellent learning opportunities for your students.

The Communication department reserves the right to periodically review this agreement as staffing and enrollment trends change to implement adjustments and alternatives that will allow for continued delivery of instruction to your students. Similarly, we would anticipate that if you find that any of these courses are not serving your students’ needs, the School will alert us to that fact, and we can seek to make adjustments in the curriculum.

We will look forward to working with your students in the Leadership and Communication minor.

Sincerely,

Chris Segrin                     Kyle Tusing
Department Head                  Director of Undergraduate Studies
Steve and Nancy Lynn Professor of Communication  Professor of Communication
Hi Suzanne:

SNRE supports the inclusion of the three RNR courses in the School of Mining and Mineral Resources minor program:

- RNR 150C1: Sustainable Earth: Natural Resources and the Environment – Kathleen Prudic
- RNR 403: Application of Geographic Information Systems – Craig Wissler
- RNR 480: Natural Resources Policy and Law – Laura Lopez Hoffman
- RNR 485: The Economics & Social Connections to Natural Resources – Jose Soto

Best regards,

Wim

Willem J.D. van Leeuwen, Professor and Interim Director
School of Natural Resources and the Environment
Professor School of Geography, Development & Environment
Director Arizona Remote Sensing Center

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http://snre.arizona.edu/facilities/arsc
November 7, 2021

Ms. Suzanne Madrigal
Academic Programs Officer
School of Mining and Mineral Resources
University of Arizona
Tucson, AZ  85721

Dear Ms. Madrigal:

This letter serves to confirm our support for including the course RCSC 150B1: Consumers, Environment, and Sustainability, in the new minor being developed by the School of Mining and Mineral Resources. We agree that the course is a good fit with your stated goal of transforming the way we prepare future citizens and professionals to work across disciplines and promote the sustainable and responsible production and use of Earth’s resources. We are pleased to be a part of this new endeavor.

Wishing you much success as you launch this new program!

Sincerely,

Dr. Laura Scaramella
Director, Norton School of Family and Consumer Sciences
To Whom It May Concern:

On behalf of the Department of Materials Science and Engineering, I offer this letter in support of including the following department courses in the School of Mining and Mineral Resources’ Sustainable Mineral Resources minor.

- MSE 450: Materials Selection for the Environment

The ever-increasing demand for mineral resources requires collaboration with multiple disciplines within the university setting and beyond to develop sustainable and responsible practices. By partnering with the School of Mining and Mineral Resources, students will be exposed to additional perspectives that will enhance mineral resource development.

We look forward to this opportunity to support this program.

Sincerely,

Sammy Tin, Ph.D.

Department Head and Professor
Materials Science and Engineering
University of Arizona
MEMO

Date: February 8, 2022

To Whom It May Concern:

On behalf of the Department of Mining and Geological Engineering, I offer this letter in support of including the following department courses in the School of Mining and Mineral Resources’ Sustainable Mineral Resources minor:

MNE 205: Introduction to Mining Engineering
MNE 210: Minerology and Petrology for Engineers
MNE 297A: Underground Mine Safety
MNE 297B: Operation and Maintenance of heavy Mining Equipment
MNE 297C: Fundamentals of Mine Rescue
MNE 411: Mineral Processing
MNE 423: Historic and Contemporary Role of US Regulatory Agencies (OSHA, MSHA, EPA) – NEW COURSE
MNE 424: Miner Health: Fitness for Duty, Mitigating Exposures, and Managing Disease Risk – NEW COURSE
MNE 425: Mine Emergencies and Disasters – Prevention, Response, and Recovery – NEW COURSE
MNE 426/426A: Health and Safety in Mining
MNE 427: Geomechanics
MNE 430: Mine Examination and Valuation

Please note that due to ‘Advanced Standing’ and enrollment requirements, only students in the College of Engineering can enroll in upper division engineering courses (MNE 411, 423, 424, 425, 426, 427 and 430).

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We look forward to this opportunity to support this program.

Sincerely,

Moe Momayez, PhD
Interim Department Head
David & Edith Lowell Chair in Mining and Geological Engineering
520-621-6580
moe.momayez@arizona.edu
November 22, 2021

To Whom It May Concern:

On behalf of the Systems and Industrial Engineering (SIE) Department, I offer this letter in support of including the following department courses in the School of Mining and Mineral Resources’ Sustainable Mineral Resources minor.

- SIE 265: Engineering Management I
- SIE 422: Engineering Decision Making Under Uncertainty
- SIE 466: Life Cycle Analysis for Sustainable Design and Engineering

The Department of Systems and Industrial Engineering has been working closely with the Department of Mining and Geological Engineering in collaborative efforts in both research as well as education. The SIE department is highly interested in working with the School of Mining and Mineral Resources, supporting the Sustainable Mineral Resources minor. The above SIE courses are regularly offered as part of our existing curriculum and seats are generally available in these classes.

We look forward to this opportunity to support this program.

Sincerely,

[Signature]

Young-Jun Son
Professor and Head of Department of Systems and Industrial Engineering
November 30th, 2021

Re: SGPP Courses for SMMR Minor

On behalf of the School of Government and Public Policy, I offer this letter in support of including the following courses in the School of Mining and Mineral Resources’ minor in Sustainable Mineral Resources:

- PA 482: Environmental Governance
- PA 484: Environmental Management

Partnering with SMMR provides students with additional perspectives that will enhance mineral resource development. Specifically, SGPP’s classes offer the opportunity to develop a strong policy background to complement the scientific study of mineral resources.

Sincerely,

[Signature]

Director, Undergraduate Studies
Associate Professor, Political Science
School of Government and Public Policy
November 4, 2021

Dear all concerned with the proposed School of Mining and Mineral Resources minor,

This is a letter of support for the use of any of our iSchool courses to support the proposal. We are so pleased to be a part of this as we aim to serve the campus in interdisciplinary projects like this one. We look forward to working with you and wish you a positive experience with your new plan.

There is no conflict with School of Information programs and there are certainly opportunities for synergy moving forward. We are eager to welcome your students into our relevant courses and we do have seats available to support the students in this new program.

Further, we see the need for this new program. As many know, iSchools are meant to provide interdisciplinary courses that can work well for programs like this, and also aim to explore grand challenges that occur at the intersections of people and technology. This new program focused on serving learners engaging in matters of mining is thus one we are absolutely thrilled to be a part of.

We look forward to our ongoing collaboration.

Sincerely,

Catherine Brooks
Director, School of Information
To Whom It May Concern:

On behalf of the Department of Geosciences I offer this letter in support of including the following department courses in the School of Mining and Mineral Resources’ Sustainable Mineral Resources minor.

- GEOS 251: Physical Geology
- GEOS 280: Programming and Data Analysis in the Earth Sciences
- GEOS 446: Economic Mineral Deposits

Through these classes the department of Geosciences will be providing important resources and skills to students in this minor. The ever-increasing demand for mineral resources requires collaboration with multiple disciplines within the university setting and beyond to develop sustainable and responsible practices. By partnering with the School of Mining and Mineral Resources, students will be exposed to additional perspectives that will enhance mineral resource development.

We look forward to this opportunity to support this program.

Sincerely,

Barbara Carrapa, Professor and Department Head of Geosciences
November 11, 2021

To Whom It May Concern:

On behalf of the Hydrology and Atmospheric Sciences Department I offer this letter in support of including the following department courses in the School of Mining and Mineral Resources’ Sustainable Mineral Resources minor.

- HWRS 431: Hydrogeology
- HWRS 350 Principles of Hydrology
- HWRS 201: Water Science and the Environment

The Hydrology and Atmospheric Sciences Department has long had broad and deep collaborations with the mining and geology programs at the University of Arizona. Additionally many of our graduates end up working in or with the mining industry here in Arizona or globally. The training of people with careers in mining on the hydrologic aspects of the environment will be of great value to them and to our department. The ever-increasing demand for mineral resources requires collaboration with multiple disciplines within the university setting and beyond to develop sustainable and responsible practices. By partnering with the School of Mining and Mineral Resources, students will be exposed to additional perspectives that will enhance mineral resource development.

We look forward to this opportunity to support this program.

Sincerely,

Thomas Meixner
Professor and Head

ThomasMeixner@email.arizona.edu
4 January 2022

To Whom it May Concern:

On behalf of the School of Sociology, I offer this letter in support of including the following courses in the School of Mining and Mineral Resources’ Sustainable Mineral Resources minor.

· SOC 307 Environmental Sociology

The ever-increasing demand for mineral resources requires collaboration with multiple disciplines within the university setting and beyond to develop sustainable and responsible practices. By partnering with the School of Mining and Mineral Resources, students will be exposed to additional perspectives that will enhance mineral resource development.

We look forward to this opportunity to support this program.

Sincerely,

Erin Leahey
Professor and Director
School of Sociology
University of Arizona
Jodi Banta  
Program Manager  
Lowell Institute for Mineral Resources  
The University of Arizona  
1235 E. James Rogers Way  
Tucson, Arizona 85721  

January 6, 2022  

Dear Ms. Banta,  

I am writing as Head of American Indian Studies (AIS) to confirm that AIS approves the following courses to be included in the Sustainable Resources Minor:  

AIS 200 Introduction to American Indian Studies  
AIS 220 Contemporary American Indian Issues  
AIS 441 Natural Resource Management in Native Communities  

Thank you for your interest in AIS. We very much appreciate your willingness to include AIS courses in the new minor!  

Sincerely,  

[Signature]  

Matthew Sakiestewa Gilbert  
Professor and Head
To Whom It May Concern:

On behalf of the School of Geography, Development & Environment, I approve of the use of the following courses for the proposed Sustainable Mineral Resources minor and support the minor’s creation. We look forward to collaborating with other units to offer students the opportunity to explore various perspectives that may enhance their understanding of the sustainability issues surrounding mining activities. We believe that some of our majors may also benefit from the creation of this minor, whether from a wider array of voices in class discussions or from the opportunity to pursue this minor as a complement to their studies.

We approve the use of the following SGDE-homed courses for the minor:

- GEOG 222: Working with Numeric, Spatial, and Visual Data Fundamental Geographic Techniques
- GEOG 250: Environment and Society in the Southwest Borderlands
- GEOG 304: Water, Environment, and Society
- GEOG 305: Economic Geography
- GEOG 362: Environment and Development
- GEOG 462: Environmental Law, Geography, and Society

Regards,

Dereka Rushbrook
Associate Professor of Practice &
Director of Undergraduate Studies
Date: November 30, 2021  
To: Whom It May Concern

From: Jayanthi Sunder, Vice Dean of Academic Programs, Eller College of Management  
Subject: Eller Courses in new Mining and Mineral Resources Minor

This memo indicates the Eller College’s support for the School of Mining and Mineral Resources to offer a minor, which uses courses taught through the Eller College of Management. In addition to core classes and a capstone, students are required to take a minimum of 9 units of Mining and Mineral Resources minor electives, with multiple courses available from more than one department within the 7 track options. The Eller departments impacted have been made aware and approve the students pursing the take these courses with the following registration considerations.

Students enrolled in the Mining and Mineral Resources minor will be able to select courses that fulfill minor elective options within the following tracks:

**Leadership and Communication:**

- **BNAD 302 (Human Side of Organization):** Typically available year round, should be planned for Junior or Senior year.

**Business and Economics:**

- **ACCT 200 (Introduction to Financial Accounting) or ACCT 250 (Survey of Accounting):** Non-Eller students are encouraged to take ACCT 250, which is typically offered Fall, Spring and Summer. If students would prefer to take ACCT 200, it should be planned for Winter, Spring, or Summer. Fall enrollment is restricted to Eller Pre-Business students only.
- **BNAD 304 (Survey of Finance):** Typically available in Winter/Summer, should be planned for Junior or Senior year.
- **MGMT 202 (Ethical Issues in Business):** Typically available year round, offered Fall, Spring, and Summer.
- **FIN 150C1 (Finance and Society: The Good, the Bad, and the Ugly):** Typically offered Fall and Spring (subject to University “double dip” policies).
January 4, 2022

Suzanne Madrigal, M.ED, PMP
Sr Program Coordinator
School of Mining and Mineral Resources
University of Arizona

Dear Suzanne

Re: Mining and Mineral Resources Minor

On behalf of the Mel and Enid Zuckerman College of Public Health (MEZCOPH), I offer this letter in support of including the following MEZCOPH courses in the School of Mining and Mineral Resources’ Sustainable Mineral Resources minor:

- EHS 375: Introduction to Environmental and Occupational Health
- EHS 418: Introduction to Human Health Risk Assessment
- EHS 422: Intro to Occupational Safety
- EHS 426: Topics in Environmental Justice
- EHS 484: Fundamentals of Industrial and Environmental Health
- EHS 489: Public Health Preparedness
- HPS 200: Intro to Public Health
- HPS 481: Health Education Intervention Methods
- PHP 421: Introduction to Public Health Law and Ethics

The value that your proposed minor places on public health aspects of mineral resources development is important, and we are pleased to partner with you.

We look forward to working with you on this program.

Sincerely,

John Ehiri, PhD
Associate Dean for Academic Affairs
November 16, 2021

To Whom It May Concern:

On behalf of the School of Landscape Architecture and Planning, I offer this letter in support of including the following department courses in the School of Mining and Mineral Resources' Sustainable Mineral Resources minor.

- SBE 201 Sustainable Design & Planning

The ever-increasing demand for mineral resources requires collaboration with multiple disciplines within the university setting and beyond to develop sustainable and responsible practices. By partnering with the School of Mining and Mineral Resources, students will be exposed to additional perspectives that will enhance mineral resource development.

We look forward to this opportunity to support this program.

Sincerely,

Lauri Macmillan Johnson
Director and Professor, School of Landscape Architecture and Planning
To Whom It May Concern:

On behalf of the Department of Computer Science, I offer this letter in support of including the following department courses in the School of Mining and Mineral Resources’ Sustainable Mineral Resources minor.

- CSC 110, Computer Programming I
- CSC 460, Database Design (note: this class may only be taken by Computer Science majors)

Understanding computer programming and computer science in general requires collaboration with multiple disciplines. By partnering with the School of Mining and Mineral Resources, students will be exposed to additional perspectives that will enhance mineral resource development. We look forward to this opportunity to support this program.

Sincerely,

David Lowenthal
Professor and Interim Head
November 11, 2021

School of Mining and Mineral Resources
University of Arizona

To Whom it May Concern:

I am pleased to provide this letter of support from the School of Anthropology for the new minor in Mining and Mineral Resources being offered within the School of Mining and Mineral Resources. Specifically, in support of this minor, the School of Anthropology will offer ANTH 150B Many Ways of Being Human and ANTH 331 Anthropology and Development on a regular basis. We do not anticipate any problems having seats available for Mining and Mineral Resources students in these courses.

Please do not hesitate to contact me if you have any questions.

Sincerely yours,

Diane E. Austin
Professor and Director
November 16, 2021

To whom it may concern;

This letter is to confirm the Department of Philosophy’s support for the inclusion of PHIL 322 – Business Ethics and PHIL 323 – Environmental Ethics in the Minor in Mining and Mineral Resources proposed by the School of Mining and Mineral Resources.

Sincerely,

Jason Turner
Head, Department of Philosophy
To Whom It May Concern:

On behalf of the Department of Environmental Science, I offer this letter in support of including the following department courses in the School of Mining and Mineral Resources’ Sustainable Mineral Resources minor.

- ENVS 340: Environmental Chemistry
- ENVS 310: Ecosystem Health and Justice
- ENVS 415: Translating Environmental Science
- ENVS 482: Reclamation and Redevelopment of Impacted Lands
- ENVS 170A1: Introduction to Environmental Science
- ENVS 195D: Water and the Environment
- ENVS 305: Pollution Science

The ever-increasing demand for mineral resources requires collaboration with multiple disciplines within the university setting and beyond to develop sustainable and responsible practices. By partnering with the School of Mining and Mineral Resources, students will be exposed to additional perspectives that will enhance mineral resource development.

We look forward to this opportunity to support this program.

Sincerely,

Joan E. Curry
Professor and Associate Head
Proposed Senate Resolution
RE: Opposition to the "Stop Critical Race Theory and Racial Discrimination in Schools and Other Public Institutions Act" (HBC 2001)

WE, the elected members of the Faculty Senate at the University of Arizona, support legislation that prevents discrimination toward individuals and groups based on race or ethnicity.

However, WE, the Faculty Senate, do not support legislation that prohibits scholarship, instruction, and programs on the UArizona campus that explain, debate, and mitigate the causes and consequences of racial/ethnic discrimination.

Therefore, the Faculty Senate opposes specific provisions in the "Stop Critical Race Theory and Racial Discrimination in Schools and Other Public Institutions Act" (HBC 2001), including, but not limited to (in bold):

Under part "2. Purpose."

2. Racially discriminatory ideologies and practices such as that known as "critical race theory" directly contradict the principles of the Fourteenth Amendment of the United States Constitution, the Civil Rights Act of 1964 and the Constitution of Arizona by inflaming divisions on the basis of race and ethnicity.

4. The ordinary meaning of terms such as "anti-racist" and "diversity, equity and inclusion" have been supplanted and distorted by proponents of an ideology that actively groups, segregates, discriminates or otherwise advocates for differential treatment among individuals based on racial and ethnic characteristics.

Under part "5. Article XI, Constitution of Arizona, is proposed to be amended by adding section 12 as follows if approved by the voters and on proclamation of the Governor:

4 12. Prohibition on state-sponsored racial discrimination in public education; definitions

SECTION 12. A. AN EMPLOYEE OR GOVERNING BOARD OR GOVERNING BODY MEMBER OF A PUBLIC INSTITUTION OF ELEMENTARY OR SECONDARY EDUCATION, PUBLIC UNIVERSITY OR COMMUNITY COLLEGE IN THIS STATE MAY NOT COMPEL OR REQUIRE ANY EMPLOYEE OR STUDENT TO ADOPT, AFFIRM, ENDORSE, ADHERE TO OR PROFESS AN IDEA CONTRARY TO TITLE VI OF THE CIVIL RIGHTS ACT OF 1964 (P.L. 88-352; 78 STAT. 241) AND ARTICLE II, SECTION 36 OF THIS CONSTITUTION, OR COMPEL ANY EMPLOYEE OR STUDENT TO PARTICIPATE IN A TRAINING OR ORIENTATION PROMOTING SUCH IDEAS, INCLUDING, BUT NOT LIMITED TO, ANY OF THE FOLLOWING: OR COMPEL ANY EMPLOYEE OR STUDENT TO PARTICIPATE IN A TRAINING OR ORIENTATION PROMOTING SUCH IDEAS, INCLUDING, BUT NOT LIMITED TO, ANY OF THE FOLLOWING:
1. That one race or ethnic group is inherently morally or intellectually superior to another race or ethnic group.

2. That an individual, by virtue of the individual's race or ethnicity, is inherently racist or oppressive, whether consciously or unconsciously.

3. That an individual should be invidiously discriminated against, or receive adverse treatment solely or partly because of, the individual's race or ethnicity.

4. That an individual's moral character is determined by the individual's race or ethnicity.

5. That an individual, by virtue of the individual's race or ethnicity, is subject to blame or judgment or bears responsibility for actions committed by other members of the same race or ethnic group.

6. That an individual should feel discomfort, guilt, anguish or any other form of psychological distress because of the individual's race or ethnicity.

7. That academic achievement, meritocracy or traits such as a hard work ethic, rational thinking, objectivity or literacy are features of racism or oppression.