

Colorado School of Mines – UNDERGRADUATE COUNCIL MEETING MINUTES
September 14, 4:00 – 5:00 pm, via Zoom

Attendees:

Voting Members: 18 total (10 needed for quorum). Quorum was present

P	Brandon Dugan (chair)	P	Becky Lafrancois (EB)	P	Mike Nicholas (AMS)	P	*Tim Ohno (PH) proxy for Chuck Stone (PH)
P	Michael Barankin (CBE)	P	Cortney Holles (HASS)	A	Corinne Packard (MME)	P	Nicole Smith (MN)
P	Dylan Domaille (CH)	P	Ge Jin (GP)	P	Rob Thompson (CS)	P	Bruce Trudgill (GE)
P	Linda Battalora (PE)	P	Hongyan Liu (CEE)	P	*Jeff Wheeler (ME) proxy for Oyvind Nilsen (ME)	P	Emmelia Ashton (USG)
P	Chelsea Salinas (EDS)	P	Brianna Buljung (LB)				

Other Regular Attendees and Guests

P	Angela Dunn (Mines Online)	P	Dixie Cirillo (PA)	A	Jennie Kenney (AA)	A	Kendra Stansbury (RO)
P	Karla Perez-Velez (CASA)	P	Vibhuti Dave (UGS)	P	Mara Green (AA)	P	*D. Scott Heath (RO) proxy for Paul Myskiw (RO)
A	Katie Ludwin (CASA)	A	Danielle Boileau (CASA)	A	Cheryl Medford (GE)	A	Rachel McDonald (PE)
A	Sam Spiegel (Mines Online)	P	Deb Jordan (Trefny Center)				

Special Guest(s): Joseph Horan (HASS), Dean Nieuwsma (EDNS), Toni Lefton (HASS), Colin Terry (SL), Scott Houser (EB)

Welcome

Brandon Dugan

Approval of Minutes – August 24, 2022

Brandon Dugan

MOTION: To approve the Undergraduate Council minutes of August 24, 2022 by Barankin, seconded by Jin. 13 for, 2 abstentions. APPROVED.

Briefings and Information Items

Office of Undergraduate Studies

Vibhuti Dave

No updates from the Office of Undergraduate Studies.

Registrar's Office

D. Scott Heath

Heath requested any feedback from departments on the new add date implemented for Fall 2022.

HASS advisor noted registration was smoother for approving students for courses needed and not

having students coming in the third week and completing makeup work.

CS reported courses with challenge/proficiency exams in the first week had a tight turnaround for some courses. Suggestion made to work with the Registrar for a mechanism to auto-drop students that have passed their challenge exams to avoid relying on students manually dropping classes where others may be waiting to register.

PH noted PHGN100 were able to form groups a week earlier.

GP reported students were aware of the new date and not many notifications were received the day after to add courses.

PA reported students submitting registration addition forms at 10:30pm for the midnight deadline; students needed signatures at later hours.

Core Curriculum Committee

Joe Horan

Core competencies were presented and approved Spring 2021. Key attributes identified by the committee were: versatility and exploration for students, interdisciplinary and integrative pedagogy, computing and data analysis for all students, retention of strong foundation in math and science, technical skills in the context of societal issues, professional development, business skills, inclusive community, and emphasis on wellness.

The proposed organization would coalesce math, basic sciences, and computing to include: math, physics, chemistry, and computing. The new core buckets would be H&SS, Design and Innovation, Student Led Inquiry, and Success and Wellness. H&SS would include HASS100 and thematic electives. Design and Innovation would include EDNS151. Student Led Inquiry would include free electives. Success and Wellness would include CSM101, CSM201, and PA electives. A new proposed course, Contextualized Approaches to Science Engineering and Society (CASES), would be a collaborative curricular signature student experience included within the core.

Math, Science, and Computing

Two options presented. Option one would total fifteen credits with Calc I, II, III required and four credits each. Departments would then identify an additional three credits required in their degree program. Option two would total twelve credits will Calc I, II, III reduced to three credits each and required. Vector calculus would become a new course and departments would identify an additional three credits required in their degree program.

Committee recommends math remain at fifteen credits, Phys I be reduced from four and half credits to four credits, Chem I remain four credits, and addition of a three-credit computing course.

H&SS

Two options presented. Option one would total eighteen credits given there are enough resources and would include substitution of HASS200 and EBG201 with the integrated gateway course CASES. CASES would group the H&SS electives into themes. Option two would total eighteen credits with minimal resources and minimal revision to H&SS within the core.

Committee recommends refinement of HASS100 to three credits, removal of HASS200 and EBG201 from the core, development of the Student Signature Experience CASES, and increasing H&SS electives to twelve credits with business classes included.

Design and Innovation

EDNS151 rebranded as Cornerstone Design. Committee recommends EDNS151 stay three credits, EDS collaboration with HASS and EB to develop CASES, and EDNS151 content reduction that would occur with the implementation of CASES depending on sequence and any redundancies.

Success and Wellness

Two options presented. Option one would total three credits and is recommended; CSM101 would be expanded into one credit, CSM201 would be introduced as one credit, and continue retention of upper division PAGN courses. Option two would total two credits and expands CSM101 into one credit and introduces CSM201, also one credit.

Committee recommends PAGN require one, one credit course. CSM101 as one credit would address additional professional development and personal success topics via content experts, expanded modules, and community building opportunities. CSM201 would explore current best evidence for behaviors that support physical and emotional health and performance. Reviews and understands the five dimensions of well-being including physical, emotional, social, environmental, and intellectual.

Student Led Inquiry

Two options presented. Option one would total six credits where all six free electives are maintained in the core. Option two would move free electives to departmental control and would total zero credits in the core. Committee recommends retention of six credits of free electives within the core and sees this as critical for minors and 4+1 programs. Students are known to use this bucket to transfer in credit. Option two provides programs flexibility in retaining free electives; option would bring down the overall credit count in degree programs. Committee noted peer institutions do not include free electives in the core.

Distributed Sciences

Committee recommends distributed science move to departmental control, Dave noted this is current practice. Department require which and how many advanced math and science courses are included within their degree programs. Distributed sciences exist at peer institutions but are not noted as part of the core.

Committee repackaged recommendation to fall in line with CDHE recommendations and requirements. CDHE would like the core be between thirty and forty credits targeting competency in reading, critical thinking, written communication, mathematics, and technology. For CDHE: Math, Basic Sciences, and Computing alongside H&SS would be repackaged within the “general core”. The “Mines Nucleus” would contain the buckets of Design and Innovation, Student Led Inquiry, Degree-Specific Math, and Success and Wellness.

Final steps for the committee include tying ideas back to the identified competencies; developing new courses including CASES, computing, and H&SS electives, identifying how CSM201 and PAGN develop, refine NHV and PHYS, adjust academic flowcharts, and begin identifying edits within the Catalog for logistical policies.

- **Question** on a plan for how these changes would affect 200-, 300-, and 400-level courses; Horan reported varying levels of readiness within the proposals. Some parts of the recommendation would be implemented sooner than others. Parts such as CASES would be implemented as a pilot in Fall 2023.

Committee recognized Fall 2023 as the target timeline where recommendations are moving forward, committee understood not all parts will be implemented immediately. Suggestion made for a subcommittee to identify learning objectives, curriculum, and implementation for new courses and pass that to degree programs to begin adjusting.

- **Question** on piloting courses and how many students are expected; Horan noted the CASES would be piloted with a smaller subset of students. DHs had suggested around ten percent of students in CASES for Fall 2023.

Discussion on credit reduction of HASS100, content that may be removed, and how that would be implemented with CASES. Concern from faculty on HASS200 no longer containing a global component. Core competencies emphasize ethics and looking at the implementation of ethics across the curriculum. Comparative culture and global components would be present as part of CASES; Horan noted the difference may be that these components are geared toward sustainability, environment, energy, or technical areas. Comment made on delivery, importance of smaller-scale student discussion, and interaction within courses for global studies and ethics.

- **Question** on consideration of a prerequisite structure for students to build off of knowledge gained in prior courses; Horan noted NHV would remain a prerequisite for global studies, HASS experienced difficulty with students putting off global studies until senior year.

Comment made on incoming students using Principles of Economics in the first semester, CASES may alleviate this issue. Suggestion made to use CASES as prerequisite for subsequent humanities and social sciences courses as a base-level learning experience and gain contextual knowledge. Horan noted HASS requirements in the past had caused inflexibility and delayed graduation for students. Framework of pathways could be laid out in 2022 but would develop organically through faculty in coming years, rather than being mandated.

Dugan noted the resolution presented to Faculty Senate does not require Council approval, Senate would like the voice of Council regarding the core curriculum. Two options presented to Council: verbal Council endorsement of the resolution presented to Faculty Senate or an official vote from Council. The timeline of Senate vote would be affected by the options presented to Council. Council to decide the timeline electronically.

Steering Committee

Brandon Dugan

Steering committee volunteers requested offline.

New Curriculum Items

- 1.1 **ENGINEERING, DESIGN, AND SOCIETY** Chelsea Salinas
 [CIM 8/24]
 1 program change: BS-EGN: BS in Design Engineering
 Our undergrad committee reviewed our focus area listings and requirements. We

propose the updated changes to streamline curriculum for our students that aligns with consistent course delivery. The proposed focus area course changes also provide a more curated group of courses meeting the needs of our students within their chosen focus area themed pathway. We continue to offer breadth in focus area course offerings with a strong focus on our design core and pedagogy critical to our success as a department and in line with the goals of team-work, innovation and growth through Mines@150. Our Dept. Head, Dean Nieusma, has been in conversations with the Provost regarding a program name change from BS in Engineering to BS in Design Engineering. We have been given the green light from upper administration to pursue this name change.

EDS discussed with department Undergraduate Program committee and performed a program audit Spring 2022. BSE approved 2018 and implemented 2019. Proposed changes developed from the program audit to streamline the seven focus areas within the program for students. Students can elect to enroll in similar coursework as a minor, eighteen credits. Program changes removed courses no longer being offered or not offered consistently.

Courses called Engineering Fundamentals were prerequisites for courses within focus areas, program change would prescribe these to ensure students are taking the correct course for needed for the focus area in the program.

Program name change presented as Design Engineering; BS in Engineering was often misrepresented as a general engineering program, program is primarily design course content. Students identify to recruiters as design engineers. Program name change may help with miscommunication, administrative oversight and alignment, and overall representation of the program.

- **Question** on peer institutions containing Design Engineering programs; Salinas reported Engineering Design and Industrial Design, but none named Design Engineering.

1.1.1 **5 course changes:** EDNS151: CORNERSTONE DESIGN
 EDNS155: CORNERSTONE DESIGN I: GRAPHICS
 EDNS251: CORNERSTONE DESIGN II
 EDNS491: CAPSTONE DESIGN I
 EDNS491: CAPSTONE DESIGN II

We are wanting to update course name to better align with course association around campus. Furthermore, upper administration has requested this course name change for alignment with Mines@150 initiatives in innovation, entrepreneurship, and design.

Students reference courses as Senior Design I and II/Design I and II; external stakeholders, sponsors, and Foundation reference courses as Cornerstone and Capstone. Proposed name changes to align with the program.

1 new course: EDNS325: CULTURAL ANTHROPOLOGY
Transfer of class from HASS to EDNS to provide continuous offering of Anthropology to Mines students. Provides an alternative to H&SS offerings required of all students.

1.2 **HUMANITIES, ARTS, AND SOCIAL SCIENCES** Chelsea Salinas
 [CIM 9/7]

1 course deactivation: HASS325: CULTURAL ANTHROPOLOGY

Transfer of class from HASS to EDNS to provide continuous offering of Anthropology to Mines students. Provides an alternative to H&SS offerings required of all students.

Course deactivation presented Spring 2021. Deactivation tabled with the expectation of EDNS rehomeing the HASS course.

1.3 **CSM GENERAL** Corinne Packard
[CIM 9/7]

1 program change: MIN-QUE: Minor in Quantum Engineering
Catalog had displayed incorrect course names in description, a deadlink, and duplicate courses. Request made through ITS Help Center, redirected to UGC.

Request made through ITS reporting deadlinks, incorrect course names, and duplicate courses. Program change made to update the Catalog entry to reflect the correct course names, numbers, and removal of any duplicate courses.

Continuing Curriculum Item(s) – from 8/24/22

2.1 **APPLIED MATHEMATICS AND STATISTICS** Mike Nicholas
[CIM 8/10]

1 course change: MATH307: INTRODUCTION TO SCIENTIFIC COMPUTING
MATH307 primarily serves AMS and MEGN students. Currently, the first 3-4 weeks of the course include an introduction to programming. Now that both groups are required to take CS101/102, we'd like to add a CS101/102 prerequisite and use the first 3-4 weeks for a shorter intro to Matlab and increased content in numerical methods.

MOTION: To approve the course change in Applied Mathematics and Statistics to MATH307: Introduction to Scientific Computing by Barankin, seconded by LaFrancois. 16 for, 1 no. Motion passed.

2.2 **MINING ENGINEERING** Nicole Smith
[CIM 8/17]

1 course change: MNGN321: INTRODUCTION TO ROCK MECHANICS
Add prerequisite CEEN311 Mechanics of Materials.

No additional changes

This prerequisite is essential for this course. It had been in the Catalog in the past but was dropped for unknown reasons.

Smith addressed past question regarding students effected by this prerequisite. Students were being advised to take CEEN311 despite the Catalog entry having not reflected this.

MOTION: To approve the course change in Mining Engineering to MNGN321: Introduction to Rock Mechanics by Jin, seconded by Battalora. Motion passed unanimously.

Adjourn

Brandon Dugan

Meeting adjourned: 5:13 pm.

Next meeting: September 28, 4:00-5:00 pm via Zoom.