

Missouri University of Science and Technology

Formerly University of Missouri-Rolla

Campus Curricula Committee Meeting Agenda February 7, 2018 2:00pm – 3:30pm, 216 Parker Hall (For Faculty Senate Meeting of February 22, 2018)

Review of submitted Course Change forms:

W OI SUDIIIILLEG COUIS	e change forms.
File: 4382.2	EXP ENG 5922: Tunneling & Underground Construction Techniques
File: 1173.15	GEO ENG 1150: Physical and Environmental Geology
File: 1534.4	MIN ENG 2925: Surveying For Mineral Engineers
File: 2037.1	MIN ENG 3812: Statics And Mechanics Of Rock Materials
File: 41.7	MIN ENG 3913: Mineral Identification and Exploration
File: 2260.8	MIN ENG 4113: Mine Atmosphere Control
File: 677.1	MIN ENG 4122: Advanced Mine Health and Safety
File: 600.1	MIN ENG 4212: Advanced Aggregate and Quarrying
File: 906.2	MIN ENG 4322: Coal Mine Development And Production
File: 431.1	MIN ENG 4412: Aggregate Materials Characterization, Sizing and Dimension Stone
File: 81.1	MIN ENG 4423: Mineral Processing I (Flotation and Hydrometallurgy)
File: 1698.1	MIN ENG 4424: Mineral Processing II (Mechanics and Design)
File: 1726.4	MIN ENG 4522: Ore Reserve Analysis And Geostatistics
File: 529.5	MIN ENG 4742: Environmental Aspects Of Mining
File: 1823.5	MIN ENG 4823: Rock Mechanics
File: 1145.8	MIN ENG 4912: Mine Power And Drainage
File: 1524.4	MIN ENG 4932: Underground Mining Methods And Equipment
File: 682.4	MIN ENG 4933: Surface Mining Methods And Equipment
File: 1257.1	MIN ENG 5113: Mine Atmosphere Control
File: 2505.1	MIN ENG 5122: Advanced Topics in Mine Health and Safety
File: 825.1	MIN ENG 5212: Aggregates and Quarrying
File: 839.1	MIN ENG 5322: Coal Mining Methods
File: 1930.1	MIN ENG 5412: Aggregates Materials Sizing and Characterization
File: 500.1	MIN ENG 5413: Material Processing by High Pressure Water Jet
File: 2019.1	MIN ENG 5422: Coal Preparation
File: 1028.1	MIN ENG 5423: Flotation and Hydrometallurgy
File: 956.1	MIN ENG 5424: Mineral Processing II Mechanics And Design
File: 1344.1	MIN ENG 5522: Ore Reserve Analysis and Geostatistics
File: 1599.1	MIN ENG 5742: Environmental Aspects of Mining
File: 590.1	MIN ENG 5823: Rock Mechanics
File: 1696.1	MIN ENG 5912: Mine Power and Drainage
File: 2264.1	MIN ENG 5932: Underground Mining Methods
File: 2265.1	MIN ENG 5933: Surface Mining Methods
File: 103.1	MIN ENG 6842: Advanced Rock Mechanics
File: 369.1	MIN ENG 6843: Dynamic Rock Mechanics

Review of submitted Degree Change Forms:

File: 95.24 MI ENG-BS: Mining Engineering BS

	t	
Date Submitted: 10/		In Workflow
/iewing: EXP El	NG 5922 : Advanced Tunneling & Underground Construction	1. RMINNUCL Chair
Techniques		2. CCC Secretary
ile: 4382.2		3. Engineering DSC
_ast approved: 09/	/16/17 3:21 am	Chair
_ast edit: 11/28/17		4. Pending CCC
Changes proposed b		Agenda post
<u> </u>	Explosives Engineering	5. CCC Meeting
Catalog Pages	<u>Explosives Engineering</u>	Agenda 6. Campus Curricula
referencing this		Committee Chair
course		7. FS Meeting
Duaguaga	MI ENG-BS: Mining Engineering BS	Agenda
Programs referencing this		8. Faculty Senate
course		Chair
000.00		9. Registrar
Other Courses	In The Catalog Description:	10. CAT entry
referencing this	MIN ENG 5922 : Advanced Tunneling & Underground	11. Peoplesoft
course	<u>Construction Techniques</u>	
		Approval Path
Requested	Fall 2018 2017	1. 11/27/17 7:12 pr
Effective Change		Braden lusk
Date		(blusk): Approved
Department	Mining & Nuclear Engineering	for RMINNUCL Chair
Discipline	Explosives Engineering (EXP ENG)	2. 11/28/17 10:15
Course Number	5922	am
Title	Advanced Tunneling & Underground Construction Techniques	Brittany Parnell
		(ershenb):
Abbreviated	Tun and Undergrnd Const Adv Tun&Undergrnd Const	Approved for CCC
Course Title	Adv + un&ondergma Const	Secretary
Catalog	Mechanical Advanced topics in mechanical and conventional excavation techniques	3. 01/08/18 1:36 pr
Description	in underground tunneling and construction. Topics include tunneling layouts design,	sraper: Approved
	equipment and performance modeling, ground control systems including support,	for Engineering DSCC Chair
	drainage, and structural integrity. Construction specifications, advance rate and	4. 01/23/18 10:44
	contractual and cost estimation.	am
Prerequisites	Consent of instructor. Instructor	Brittany Parnell
Field Trip		(ershenb):
Statement		Approved for
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	Pending CCC Agenda post
Required for	No	Agenda post
Majors		History
Elective for	Yes	1. Sep 16, 2017 by
Majors		Kyle Perry
		(kapqh4)

Justification for

change:

Course was being offered to graduate and undergraduate students under two separate course numbers. 5922 was selected as the course number to utilize based

on recommendations of the curriculum committee.

Semesters previously offered as an

experimental course

Co-Listed MIN ENG 5922 - Advanced Tunneling & Underground Construction Techniques

Courses:

Course Reviewer Comments

Key: 4382

Date Submitted: 12		In Workflow
Viewing: GEO	ENG 1150: Physical and Environmental Geology	
File: 1173.15	1. RGEOSENG Chair	
Last approved: 05	5/24/16 4:57 am	2. CCC Secretary 3. Engineering DSCC
Last edit: 01/23/2	18 1:44 pm	Chair
Changes proposed		4. Pending CCC
		Agenda post
Catalog Pages	Freshman Engineering Program	5. CCC Meeting
referencing this		Agenda
course		6. Campus Curricula
	CV ENG-BS: Civil Engineering BS	Committee Chair
Programs	EV ENG-BS: Environmental Engineering BS	7. FS Meeting
referencing this	GE ENG-MI: Geological Engineering Minor	Agenda
course	GEOL-MI: Geology Minor	8. Faculty Senate
	PE ENG-BS: Petroleum Engineering BS	Chair
	GE ENG-BS: Geological Engineering BS	9. Registrar
	MI ENG-BS: Mining Engineering BS	10. CAT entry
		11. Peoplesoft
Other Courses	In The Catalog Description:	ļ
referencing this	GEOLOGY 1110 : Physical And Environmental Geology	Approval Path
course	In The Prerequisites:	''
	CIV ENG 3116: Construction Materials, Properties And Testing	1. 12/17/17 8:51 ar David Borrok
	CIV ENG 3715 : Fundamentals of Geotechnical Engineering	
	CIV ENG 6760 : Inca Civilization Geotechnical Engineering	(borrokd): Approved for
	<u>Practices</u>	RGEOSENG Chair
	GEO ENG 2536: Basic Weather	2. 12/18/17 8:59 an
	GEO ENG 3175 : Geomorphology And Terrain Analysis	Brittany Parnell
	GEO ENG 3249 : Fundamentals Of Computer Applications In	(ershenb):
	Geological Engineering	Approved for CC
	GEO ENG 5331 : Subsurface Hydrology	Secretary
	GEO ENG 5443 : Subsurface Exploration	3. 01/08/18 1:36 pr
	GEO ENG 5575 : Aggregates And Quarrying	sraper: Approved
	GEO ENG 6407 : Inca Civilization Geotechnical Engineering	for Engineering
	<u>Practices</u>	DSCC Chair
	GEO ENG 6782 : Surface Waves (MASW) and Ground	4. 01/23/18 1:44 pr
	Penetrating Radar (GPR)	Brittany Parnell
	GEOLOGY 1120 : Evolution Of The Earth	(ershenb):
	GEOLOGY 2611 : Physical Mineralogy And Petrology	Approved for
	GEOLOGY 4411 : Hydrogeology	Pending CCC
	GEOLOGY 4431 : Methods Of Karst Hydrogeology	Agenda post
	GEOLOGY 4711 : Paleoclimatology and Paleoecology	
	GEOLOGY 4831 : Computational Geology	History
	GEOLOGY 4841 : Geological Field Studies	History
	GEOLOGY 5311 : Depositional Systems	1. Feb 16, 2015 by
	GEOLOGY 5513: Petroleum Geology	gertschl (1173.1)
	GEOPHYS 2211 : Geophysical Imaging	2. May 24, 2016 by
	GEOPHYS 4231 : Seismic Interpretation	kleb6b (1173.6)
	GEOPHYS 5202: Exploration and Development Seismology	

Fall 2018 Spring 2016

Requested Effective Change

Date

Department Geosciences and Geological and Petroleum

Engineering

Discipline Geological Engineering (GEO ENG)

Course Number 1150

Title Physical and Environmental Geology

Abbreviated Physical and & Environ Geo

Course Title

Catalog Materials, structure, and surface features of the Earth and planets are studied in the

Description context of the processes that continuously transform the Earth and affect

management of Earth resources, hazards, engineering problems, and environmental

challenges.

Prerequisites Entrance requirements.

Yes

Field Trip Statement

Credit Hours LEC: 2 3 LAB: 1 0 IND: 0 RSD: 0 Total: 3

Required for

Majors

Elective for No

Majors

Justification for

change:

Over the last five semesters, the course was taught with a model of 3 hours of lecture and no lab. The instructors have found that this is not the most effective way

to teach the material and wish to replace one hour of lecture with a laboratory

section.

previously offered as an

Semesters

experimental course

Co-Listed Courses:

GEOLOGY 1110 - Physical And Environmental Geology

Course Reviewer

Comments

Kev: 1173

Viewing: MIN ENG 2925 : Surveying For Mineral Engineers File: 1534.4 Last approved: 06/26/17 3:15 am Last edit: 11/29/17 9:01 am Changes proposed by: cifarellit MI ENG-BS: Mining Engineering BS Programs referencing this course MI ENG-BS: Mining Engineering BS Requested Fall 2018 2917 Effective Change Date Department Mining & Nuclear Engineering Discipline Mining Engineering (MIN ENG) Course Number 2925 Title Surveying For Mineral Engineers Abbrevlated Survey For Mineral Engrise Course Title Catalog Description Principles of surface and underground survey practice utilizing total station, engineer's level and GPS. Traversing and details, note taking and computations, balancing surveys and error analysis, staking-out new points, and map construction with AutoCAD. Prerequisites Preceded or accompanied by Min Eng 2126. 1912. Field Trip Statement LEC: 0 LAB: 2 IND: 0 RSD: 0 Total: 2 Required for Yes No Majors Veryoward Pagenda Post 1. 01/23/18 136 pm Srager: Approved for CCC Secretary Soliday Sproved for CCC Secretary Soliday Stations 1. 01/08/18 136 pm Srittany Parnell (ershenb): Approved for CCC Secretary Soliday Stations S	Date Submitted: 10,	/31/17 10:04	am				
File: 1534.4 Last approved: 06/26/17 3:15 am Last approved: 06/26/17 3:15 am Last edit: 11/29/17 9:01 am Changes proposed by: cifarellit Agenda post Programs MI ENG-BS: Mining Engineering BS Ourse File 12018 2017 Requested Fall 2018 2017 File 2018 Date Department Mining & Nuclear Engineering Mining Engineering (MIN ENG) Discipline Mining Engineering (MIN ENG) Mining Engineering (MIN ENG) Discipline Mining Engineering (MIN Engineering Discipline Mining Engineering MININUCL Chair Approval Path 1. 11/27/17 7:13 pm Braden lusk (blusk): Approval for RMINNUCL Chair Principles of surface and underground survey practice utilizing total station, engineer's level and GPS. Traversing and details, note taking and computations, balancing surveys and error analysis, staking-out new points, and map construction with AutoCAD. Prerequisites Preceded or accompanied by Min Eng 2126. 1912. Field Trip Statement LEC: 0 LAB: 2 IND: 0 RSD: 0 Total: 2 DSCC Chair Approved for CCC Secretary Field Trip Statement Agenda Agenda	Viewing: MIN E	NG 292	5 : Survev	ing For M	ineral Eng	ineers	In Workflow
Last approved: 06/26/17 3:15 am Last edit: 11/29/17 9:01 am Changes proposed by: difarelit Programs Programs Requested Requested Pall 2018 2017 Effective Change Date Date Date Department Mining & Nuclear Engineering Discipline Mining Engineering (MIN ENG) Discipline Mining Engineering (MIN ENG) Course Number 2925 Title Surveying For Mineral Engineers Abbreviated Survey For Mineral Engineers Course Title Catalog Description Principles of surface and underground survey practice utilizing total station, engineer's level and GPS. Traversing and details, note taking and computations, balancing surveys and error analysis, staking-out new points, and map construction with AutoCAD. Prerequisites Preceded or accompanied by Min Eng 2126. 1912. Field Trip Statement Elective for No Majors Papproved for No Approved for Pending CCC Agenda A. Pending CCC Agenda Agenda Agenda A. Pending CCC Agenda Agenda Agenda A. Pending CCC Agenda Agenda Agenda A. Pending CCC Agenda Agenda Agenda A. Pending CCC Agenda Agend			- · · · · · · · · · · · · · · · · · · ·				1. RMINNUCL Chair
Chair Changes proposed by: cifarellit Changes proposed by: cifarellit Programs referencing this course Fall 2018 2017 Requested Fall 2018 2017 Effective Change Date Department Mining & Nuclear Engineering Discipline Mining Engineering (MIN ENG) Course Number 2925 Title Surveying For Mineral Engineers Abbreviated Survey For Mineral Engineers Course Title Catalog Principles of surface and underground survey practice utilizing total station, engineer's level and GPS. Traversing and details, note taking and computations, balancing surveys and error analysis, staking-out new points, and map construction with AutoCAD. Prerequisites Preceded or accompanied by Min Eng 2126. 1912. Field Trip Statement Field Trip Statement Feeluired for Ves No Majors Approved for LAB: 2 IND: 0 RSD: 0 Total: 2 Approved for Fending CCC Agenda Agenda 6. Campus Curricula Committee Chair Agenda 8. Faculty Senate Cohair 9. Registrar 10. CAT entry 11. Peoplesoft Approval Path 1. 11/27/17 7:13 pm Braden lusk (blusk): Approved for RMINNUCL Chair Approval Path 1. 11/27/17 7:13 pm Braden lusk (blusk): Approved for RMINNUCL Chair Approved for CCC Secretary Secretary Secretary Field Trip Statement Feeduired for Ves No Required for No Approved for Approved for CCC Feedit Hours LEC: 0 LAB: 2 IND: 0 RSD: 0 Total: 2 4. 01/23/18 2:03 pm Brittany Parnell (ershenb): Approved for Pending CCC Pending CCC Pending CCC		/26/17 3:15	am				· ·
Changes proposed by: cifarellit Name Section Sect			u				
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referencing this course		MI ENG-BS:	: Mining Enginee	ring BS			
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Requested Fall 2018 2017 Effective Change Date	_						_
Requested Fall 2018 2017 Effective Change	course						·
Effective Change Date Department Mining & Nuclear Engineering Discipline Mining Engineering (MIN ENG) Discipline Mining Engineering Engineering Engineering Discipline Mining Engineering Mining Engineering Mining Mining Mining Engineering Mining Mining Mining Engineering Mining Mi	Requested	Fall 2018 20	917				
Date Department Mining & Nuclear Engineering Chair Discipline Mining Engineering (MIN ENG) 9. Registrar 10. CAT entry 11. Peoplesoft 11. Peoplesoft	•						
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Catalog Description Principles of surface and underground survey practice utilizing total station, engineer's level and GPS. Traversing and details, note taking and computations, balancing surveys and error analysis, staking-out new points, and map construction with AutoCAD. Prerequisites Preceded or accompanied by Min Eng 2126. 1912. Field Trip Statement Credit Hours LEC: 0 LAB: 2 IND: 0 RSD: 0 Total: 2 Braden lusk (blusk): Approved for RMINNUCL Chair Approved for CCC Secretary 3. 01/28/17 10:17 Approved for CCC Secretary 3. 01/08/18 1:36 pm sraper: Approved for Engineering DSCC Chair 4. 01/23/18 2:03 pm Brittany Parnell (ershenb): Approved for Majors Elective for No Majors		Survey For	Mineral Engrs				
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Field Trip Statement Credit Hours LEC: 0 LAB: 2 IND: 0 RSD: 0 Total: 2 DSCC Chair 4. 01/23/18 2:03 pm Brittany Parnell (ershenb): Elective for Majors No Majors	·						
Statement	Preceded or acco	ompanied by N	Min Eng 2126. 19	1 12.			
Credit Hours LEC: 0 LAB: 2 IND: 0 RSD: 0 Total: 2 DSCC Chair Required for Yes No Majors Elective for No Majors Rapproved for Engineering DSCC Chair 4. 01/23/18 2:03 pm Brittany Parnell (ershenb): Approved for Pending CCC	·						3. 01/08/18 1:36 pm
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Required for Yes No Majors Elective for No Majors Brittany Parnell (ershenb): Approved for Pending CCC	Credit Hours	LEC: 0	LAB: 2	IND: 0	RSD: 0	Total: 2	
Majors (ershenb): Elective for No Approved for Majors Pending CCC	•	Yes No					
Elective for No Approved for Majors Pending CCC	Majors						· ·
- changes	Elective for	No					, ,
Agenda post	Majors						Pending CCC
							Agenda post

Justification for change: course is now held at the experimental mine and students need mine safety to work on the mine site.	History 1. Jun 26, 2017 by cifarellit (1534.1)
Semesters previously offered as an experimental course Co-Listed	
Courses:	
Course Reviewer sraper (11/29/17 9:01 am): changed to "required for majors". Comments	

Approved for

Course Change Request

A deleted record cannot be edited **Course Deactivation Proposal** In Workflow Date Submitted: 12/07/17 4:40 pm 1. RMINNUCL Chair **Viewing: MIN ENG 3812: Statics And Mechanics Of Rock** 2. CCC Secretary 3. Engineering DSCC **Materials** Chair File: 2037.1 4. Pending CCC Last edit: 12/07/17 4:40 pm Agenda post Changes proposed by: cifarellit 5. CCC Meeting Agenda **GEOL-MI: Geology Minor Programs** 6. Campus Curricula referencing this Committee Chair course 7. FS Meeting Agenda In The Prerequisites: Other Courses 8. Faculty Senate CIV ENG 3116: Construction Materials, Properties And Testing referencing this Chair course 9. Registrar 10. CAT entry Requested Fall 2018 08/01/2014 11. Peoplesoft **Effective Change** Date Approval Path Department Mining & Nuclear Engineering 1. 12/07/17 10:31 Discipline Mining Engineering (MIN ENG) pm Braden lusk Course Number 3812 (blusk): Approved Title Statics And Mechanics Of Rock Materials for RMINNUCL Chair Abbreviated Stat & Mech Of Rock Mtrl 2. 12/08/17 10:08 Course Title am Catalog **Brittany Parnell** Description (ershenb): Application of the principles of mechanics to engineering problems of equilibrium, Approved for CCC strength, and stiffness concerning rock materials and mine support structures. This Secretary course extends the study of statics to rock materials in mines and covers rock-3. 01/08/18 1:38 pm related and support structure-related mechanics of materials. The course is sraper: Approved complemented by rock mechanics laboratory. for Engineering **DSCC Chair** Prerequisites 4. 01/23/18 2:06 pm MECH ENG 2340; or IDE 50 and 150. **Brittany Parnell** Field Trip (ershenb): Statement

Credit Hours Required for Majors	LEC: 2 No	LAB: 1	IND: 0	RSD: 0	Total: 3	Pending CCC Agenda post
Elective for Majors	No					
Justification for change:	graduate and numbers wer	undergraduate	students unde e course numb	r two separate c	vere being offered to ourse numbers. Other ed on recommendations	
Semesters previously offered as an experimental course						
Co-Listed Courses:						
Course Reviewer Comments						Kav: 2037

Key: 2037

Date Submitted: 10 Viewing: MIN I	/31/17 9:28 am ENG 3913 : Mineral Identification and Exploration	In Workflow 1. RMINNUCL Chair
File: 41.7		2. CCC Secretary
Last approved: 06	/26/17 3:14 am	3. Engineering DSCC
Last edit: 11/28/1	7 10:22 am	Chair
Changes proposed	py: cifarellit	4. Pending CCC
-	GEOL-MI: Geology Minor	Agenda post
Programs	MI ENG-MI: Mining Engineering Minor	5. CCC Meeting
referencing this course	GE ENG-BS: Geological Engineering BS	Agenda
course	MI ENG-BS: Mining Engineering BS	6. Campus Curricula Committee Chair
Other Courses	In The Prerequisites:	7. FS Meeting
Other Courses referencing this	MIN ENG 4932 : Underground Mining Methods And	Agenda
course	<u>Equipment</u>	8. Faculty Senate
		Chair
Requested	Fall 2018 2017	9. Registrar
Effective Change		10. CAT entry
Date		11. Peoplesoft
Department	Mining & Nuclear Engineering	i
Discipline	Mining Engineering (MIN ENG)	Approval Path
Course Number	3913	1. 11/27/17 7:13 pm Braden lusk
Title	Mineral Identification and Exploration	(blusk): Approved for RMINNUCL
Abbreviated	Mineral ID and Explor &	Chair
Course Title	Exploration	2. 11/28/17 10:22
Catalog Description	Characterization of mineral deposits. Ore body definition. Mineral Exploration techniques. Sample methods, errors and mitigation. Rock Identification and application of Geological Sciences. Hands-on lab to understand geologic concepts.	am Brittany Parnell (ershenb): Approved for CCC
Prerequisites	Either both Chem 1310 and Chem 1319 or Chem 1351; either Geo Eng 1150 or Geology 1110.	Secretary 3. 01/08/18 1:39 pm sraper: Approved
Field Trip		for Engineering
Statement		DSCC Chair
Credit Hours	LEC: 2 3 LAB: 1 0 IND: 0 RSD: 0 Total: 3	4. 01/23/18 2:08 pm Brittany Parnell
Required for Majors	Yes	(ershenb): Approved for
Elective for Majors	No	Pending CCC Agenda post
Justification for	ABET requirements and course mapping	History
change:		1. Apr 25, 2014 by
Semesters		lahne (41.1)
previously		2. Jun 26, 2017 by
offered as an		cifarellit (41.3)
experimental		T .

Co-Listed Courses:	
Course Reviewer	
Comments	
	Key

A deleted record car			
	Course	Deactivation Proposal	In Workflow
Date Submitted: 11,	9/17 3:01 pm		1. RMINNUCL Chair
Viewing: MIN E	NG 4113 : Mine At	mosphere Control	2. CCC Secretary
File: 2260.8		•	3. Engineering DSCC
Last approved: 06	26/17 3·15 am		Chair
Last edit: 11/29/1			4. Pending CCC
Changes proposed b			Agenda post
<u> </u>			5. CCC Meeting
Other Courses	In The Prerequisites:	_	Agenda
referencing this	MIN ENG 6133 : Mine Atmosp	oneric Control II	6. Campus Curricula
course			Committee Chair
			7. FS Meeting Agenda
Requested	Fall Spring 2018		8. Faculty Senate
Effective Change			Chair
Date			9. Registrar
Department	Mining & Nuclear Engineering		10. CAT entry
Discipline	Mining Engineering (MIN ENG		11. Peoplesoft
Course Number	4113		Approval Dath
Title	Mine Atmosphere Control		Approval Path
Abbreviated	Mine Atmosphere Control		1. 12/07/17 10:32 pm
Course Title			Braden lusk
Catalog	Fundamentals of mine ventila	tion, including the principles of airflow, control of	(blusk): Approved
Description		methane drainage, mine fans, network theory,	for RMINNUCL
	-	, and economics of airflow, with emphasis on analysis,	Chair
	systems design and practical a	application.	2. 12/08/17 10:09
Prerequisites	Mech Eng 2527; Civ Eng 3330	or Nuc Eng 3221.	am Brittany Parnell
·	0 , 0	G	(ershenb):
Field Trip Statement			Approved for CCC
	150.2	ND 0 200 0 7 1 1 2	Secretary
Credit Hours	LEC: 2 LAB: 1	IND: 0 RSD: 0 Total: 3	3. 01/08/18 1:36 pn
Required for	Yes		sraper: Approved
Majors			for Engineering
Elective for	No		DSCC Chair 4. 01/23/18 2:12 pn
Majors			Brittany Parnell
Justification for	Course was being offered to g	raduate and undergraduate students under two	(ershenb):
change:	separate course numbers. 513	13 was selected as the course number to utilize based	Approved for
	on recommendations of the c	urriculum committee.	Pending CCC
Semesters			Agenda post
previously			i
offered as an			History
experimental			1. Feb 9, 2015 by
course			cifarellit (2260.1)

Co-Listed 2. Jun 26, 2017 by cifarellit (2260.5) Courses: Course Reviewer Comments Key: 2260

Agenda post

Course Change Request

Date Submitted: 10/31/17 11:19 am In Workflow Viewing: MIN ENG 4122: Advanced Mine Health and Safety 1. RMINNUCL Chair File: 677.1 2. CCC Secretary Last edit: 11/29/17 9:21 am 3. Engineering DSCC Changes proposed by: cifarellit Chair 4. Pending CCC Requested Fall 2018 08/01/2014 **Effective Change** Agenda post 5. CCC Meeting Date Agenda Department Mining & Nuclear Engineering 6. Campus Curricula Discipline Mining Engineering (MIN ENG) Committee Chair 7. FS Meeting Course Number 4122 Agenda Title Advanced Mine Health and Safety 8. Faculty Senate Abbreviated Adv Mine Health and Saf Chair Course Title Safety 9. Registrar 10. CAT entry Catalog 11. Peoplesoft Description A detailed study of health and safety principles, practices, analyses, regulations, Approval Path risks issues and hazards recognition, mitigation and control, and disaster 1. 11/27/17 7:14 pm prevention technology in the mining industry. Braden lusk Prerequisites (blusk): Approved Min Eng 2126. for RMINNUCL Field Trip Chair Statement 2. 11/28/17 10:29 am **Brittany Parnell** Credit Hours LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3 (ershenb): Required for No Approved for CCC Majors Secretary 3. 01/08/18 1:36 pm Elective for Yes No sraper: Approved Majors for Engineering Justification for **DSCC Chair** change: 4. 01/23/18 2:14 pm Changing catalog description to match actual course content. **Brittany Parnell** (ershenb): Semesters Approved for previously Pending CCC offered as an

experimental	
course	
Co-Listed Courses:	
Course Reviewer Comments	sraper (11/29/17 9:21 am): checked "elective for majors"

Vov. 677

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 12/07/17 4:38 pm

Viewing: MIN ENG 4212: Advanced Aggregate and Quarrying

File: 600.1

Last edit: 12/07/17 4:38 pm Changes proposed by: cifarellit

Requested Fall 2018 08/01/2014

Effective Change

Date

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

Course Number 4212

Title Advanced Aggregate and Quarrying

Abbreviated Adv Aggregate & Quarrying

Course Title

Catalog

Description

Advanced coverage of topics on the stone and aggregate industry, including surface and underground operations, plant equipment, economics, marketing, transportation, and environmental topics. The course will include at least one field

transportation, and environmental topics. The course will include at least one field

trip and a design project.

Prerequisites

Min Eng 3912, co-requisite: Civ Eng 3116.

Field Trip

Statement

The course will include at least one field trip and a design project.

Credit Hours LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3

Required for No

Majors

Elective for No

Majors

Justification for

change:

Moved field trip statement to course description to match PeopleSoft.

Course was being offered to graduate and undergraduate students under two

In Workflow

1. RMINNUCL Chair

2. CCC Secretary

3. Engineering DSCC Chair

4. Pending CCC Agenda post

5. CCC Meeting

Agenda

Campus Curricula Committee Chair

7. FS Meeting Agenda

8. Faculty Senate

Chair 9. Registrar

10. CAT entry

11. Peoplesoft

Approval Path

1. 12/07/17 10:32

pm

Braden lusk

(blusk): Approved for RMINNUCL

Chair

2. 12/08/17 10:10

am

Brittany Parnell (ershenb):

(CISHCIID).

Approved for CCC

Secretary

 01/08/18 1:49 pm sraper: Approved for Engineering DSCC Chair

4. 01/23/18 2:16 pm
Brittany Parnell
(ershenb):
Approved for

separate course numbers. Deactivate course based on recommendations of the	Pending CCC
Mining Faculty and curriculum committee.	Agenda post
Semesters	ı
previously	
offered as an	
experimental	
course	
Co-Listed	
Courses:	
Course Reviewer	
Comments	
	Kour 60

Key: 600

A deleted record ca	nnot be edited	
	Course Deactivation Proposal	ļa
Date Submitted: 11, Viewing: MIN E File: 906.2	NG 4322 : Coal Mine Development And Production	In Workflow 1. RMINNUCL Chair 2. CCC Secretary 3. Engineering DSCC
Last approved: 04	/28/14 4:00 am	Chair
Last edit: 11/29/1	7 3:05 pm	4. Pending CCC
Changes proposed b	y: cifarellit	Agenda post
Other Courses referencing this course	In The Prerequisites: MIN ENG 5322 : Advanced Coal Mining Methods	5. CCC Meeting Agenda 6. Campus Curricula Committee Chair 7. FS Meeting
Requested Effective Change Date	Fall 2018 01/13/2015	Agenda 8. Faculty Senate Chair 9. Registrar
Department	Mining & Nuclear Engineering	10. CAT entry
Discipline	Mining Engineering (MIN ENG)	11. Peoplesoft
Course Number	4322	
Title	Coal Mine Development And Production	Approval Path
		1. 12/07/17 10:32
Abbreviated Course Title	Coal Min Devlp & Product	pm Braden lusk
Catalog Description	An in-depth study of all aspects of coal mining, including an overview of coal industry, reserves and geology, planning and development of coal mines, surface and underground mechanized methods of face preparation, equipment, coal extraction, handling and preparation as practiced in the United States.	(blusk): Approved for RMINNUCL Chair 2. 12/08/17 10:11 am
Prerequisites	Accompanied or preceded by Min Eng 4912.	Brittany Parnell
Field Trip Statement		(ershenb): Approved for CCC
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	Secretary 3. 01/08/18 1:49 pm
Required for Majors	No	sraper: Approved for Engineering
Elective for Majors	No	DSCC Chair 4. 01/23/18 2:18 pm Brittany Parnell
Justification for change:	Additional course that is not being taught.	(ershenb): Approved for
Semesters previously		Pending CCC Agenda post
offered as an experimental		History
course		1. Apr 28, 2014 by lahne (906.1)

Co-Listed Courses:		
Course Reviewer		
Comments		
		Key: 906

Key. 90

	Course Deactivation Proposal	
Date Submitted: 12,	·	In Workflow
tiouring, MINI F	NG 4412 : Aggregate Materials Characterization, Sizing a	1. RMINNUCL Chair
Dimension S	Stone Characterization	3. Engineering DSCC
ile: 431.1		4. Pending CCC
ast edit: 12/07/1	7 4:37 pm	Agenda post
Changes proposed b	y: cifarellit	5. CCC Meeting
	MNRL PR-MI: Mineral Process Eng Minor	Agenda
Programs		6. Campus Curricula
referencing this course		Committee Chair
course		7. FS Meeting
Requested	Fall 2018 08/01/2014	Agenda 8. Faculty Senate
Effective Change		Chair
Date		9. Registrar
Department	Mining & Nuclear Engineering	10. CAT entry
Discipline	Mining Engineering (MIN ENG)	11. Peoplesoft
•		
Course Number	4412	Approval Path
Title	Aggregate Materials Characterization, Sizing and Dimension Stone	1. 12/07/17 10:32
	<u>Characterization</u>	pm
Abbreviated	Aggregate Materials	Braden lusk
Course Title		(blusk): Approved
Catalog	Geological formation of aggregates; aggregate properties and their measurements;	Chair
Description	aggregates for specific end-user applications; specifications and standards;	2. 12/08/17 10:11
	processing (crushing, screening, classification, and washing); plant design and flow	am
	sheet analysis; dimension stone processing; quality control and assurance. Field	Brittany Parnell
	Trip Required: to enhance the classroom instructions and to expose the students	(ershenb):
	to industrial practices of safe production.	Approved for CCC
Prerequisites	Min Eng 2412. 3412.	Secretary
Field Trip		3. 01/08/18 1:50 pn sraper: Approved
Statement		for Engineering
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	DSCC Chair
Required for	No	4. 01/23/18 2:21 pn
Majors		Brittany Parnell
Elective for	Yes No	(ershenb):
Majors	res no	Approved for
		Pending CCC Agenda post
Justification for	Industry needs/approval and National Stone, Sand and Gravel Association (NSSGA)	Agenda post
change:	acceptance for the course expansion	
	Course was being offered to graduate and undergraduate students under two	
	separate course numbers. 5412 was selected as the course number to utilize based on recommendations of the curriculum committee.	

Semesters previously offered as an experimental course Co-Listed Courses:

Course Reviewer

ershenb (10/03/17 11:31 am): Checked "yes" elective for majors and updated

Comments prerequisite to Min Eng 2412.

A deleted record cannot be edited **Course Deactivation Proposal** In Workflow Date Submitted: 11/29/17 3:08 pm 1. RMINNUCL Chair **Viewing: MIN ENG 4423: Mineral Processing I (Flotation and** 2. CCC Secretary 3. Engineering DSCC **Hydrometallurgy**) Chair File: 81.1 4. Pending CCC Last edit: 11/29/17 3:08 pm Agenda post Changes proposed by: cifarellit 5. CCC Meeting Agenda MNRL PR-MI: Mineral Process Eng Minor **Programs** 6. Campus Curricula referencing this Committee Chair course 7. FS Meeting Agenda Requested Fall 2018 08/01/2014 8. Faculty Senate **Effective Change** Chair Date 9. Registrar 10. CAT entry Department Mining & Nuclear Engineering 11. Peoplesoft Discipline Mining Engineering (MIN ENG) Course Number 4423 Approval Path Title Mineral Processing I (Flotation and Hydrometallurgy) 1. 12/07/17 10:32 pm Abbreviated Min Proc I (Flotat & Braden lusk Course Title Hydromet) (blusk): Approved Catalog for RMINNUCL Description Chair Forth flotation including mineral surfaces, double layer theory, zeta potential, 2. 12/08/17 10:12 hydrophbicity, adsorption, collectors, frothers, modulation, kinetics, and sulphide am and acid flotation systems. Hydrometallurgy including leaching, ion exchange and **Brittany Parnell** liquid/liquid extraction. (ershenb): Approved for CCC Prerequisites Secretary Min Eng 3412. 3. 01/08/18 1:50 pm Field Trip sraper: Approved Statement for Engineering **DSCC Chair** 4. 01/23/18 2:24 pm **Credit Hours** LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3 **Brittany Parnell** Required for No (ershenb): Majors Approved for

Elective for Majors	No	Pending CCC Agenda post
Justification for change:	Course was being offered to graduate and undergraduate students under two separate course numbers. 5423 was selected as the course number to utilize based on recommendations of the curriculum committee.	
Semesters previously offered as an experimental course Co-Listed Courses:		
Course Reviewer Comments		

A deleted record cannot be edited **Course Deactivation Proposal** In Workflow Date Submitted: 11/29/17 3:09 pm 1. RMINNUCL Chair **Viewing: MIN ENG 4424: Mineral Processing II (Mechanics and** 2. CCC Secretary 3. Engineering DSCC Design) Chair File: 1698.1 4. Pending CCC Last edit: 11/29/17 3:09 pm Agenda post Changes proposed by: cifarellit 5. CCC Meeting Agenda MNRL PR-MI: Mineral Process Eng Minor **Programs** 6. Campus Curricula referencing this Committee Chair course 7. FS Meeting Agenda In The Catalog Description: Other Courses 8. Faculty Senate MET ENG 5270: Mineral Processing II (Mechanics and Design) referencing this Chair course 9. Registrar 10. CAT entry Requested Fall 2018 08/01/2014 11. Peoplesoft **Effective Change** Date Approval Path Department Mining & Nuclear Engineering 1. 12/07/17 10:32 Discipline Mining Engineering (MIN ENG) pm Braden lusk Course Number 4424 (blusk): Approved Title Mineral Processing II (Mechanics and Design) for RMINNUCL Chair Abbreviated Min Proc II - (Mechs & Dsgn) 2. 12/08/17 10:12 Course Title am Catalog **Brittany Parnell** Description (ershenb): Mineral particle mechanics of comminution, sizing, classification, concentration, Approved for CCC filtering and thickening. Mill and equipment selection and design including Secretary flowsheet, development and plant assessment. 3. 01/08/18 1:50 pm sraper: Approved Prerequisites for Engineering Min Eng 3412. **DSCC Chair** Field Trip 4. 01/23/18 2:25 pm Statement **Brittany Parnell** (ershenb): RSD: 0 Approved for **Credit Hours** LEC: 2 LAB: 1 IND: 0 Total: 3

Required for Majors	No	Pending CCC Agenda post
Elective for Majors	No	
Justification for change:	Course was being offered to graduate and undergraduate students under two separate course numbers. 5423 was selected as the course number to utilize based on recommendations of the curriculum committee.	
Semesters previously offered as an experimental course		
Co-Listed Courses:	MET ENG 5270 - Mineral Processing II (Mechanics and Design)	
Course Reviewer Comments		

Key: 1698

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 11/29/17 3:09 pm

Viewing: MIN ENG 4522: Ore Reserve Analysis And Geostatistics

File: 1726.4

Last approved: 06/26/17 3:15 am Last edit: 11/29/17 3:09 pm Changes proposed by: cifarellit

GEOL-MI: Geology Minor Programs

referencing this

course

Other Courses

referencing this

course

In The Prerequisites:

MIN ENG 4096: Computer Aided Mine Design

Requested Fall 2018 2017

Effective Change

Date

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

Course Number 4522

Title Ore Reserve Analysis And Geostatistics

Abbreviated Ore Resrve Anlys&Geostat

Course Title

Catalog

Description

An introduction to principles of geostatistics, theory of spatially correlated random variables, variance and co-variances and their application on the evaluation of mineral resources, ore reserve estimation, strategic exploration, and production planning. Real case studies from mining industry will be presented.

Prerequisites

Stat 3113 or Stat 3115.

Field Trip Statement

Credit Hours LEC: 2 LAB: 1 RSD: 0 Total: 3 IND: 0

In Workflow

1. RMINNUCL Chair

2. CCC Secretary

3. Engineering DSCC Chair

4. Pending CCC Agenda post

5. CCC Meeting

Agenda

6. Campus Curricula Committee Chair

7. FS Meeting Agenda

8. Faculty Senate Chair

9. Registrar

10. CAT entry

11. Peoplesoft

Approval Path

1. 12/07/17 10:32

pm

Braden lusk

(blusk): Approved for RMINNUCL

Chair

2. 12/08/17 10:13

Brittany Parnell (ershenb):

Approved for CCC

Secretary

3. 01/08/18 1:50 pm sraper: Approved for Engineering **DSCC Chair**

4. 01/23/18 2:29 pm **Brittany Parnell** (ershenb):

Approved for

Required for Majors	Yes	Pending CCC Agenda post
Elective for Majors	No	History 1. Jun 26, 2017 by
Justification for change:	Course was being offered to graduate and undergraduate students under two separate course numbers. 5522 was selected as the course number to utilize based on recommendations of the curriculum committee.	cifarellit (1726.1)
Semesters previously offered as an experimental course		
Co-Listed Courses:		
Course Reviewer Comments		

Key: 1726

Approved for

Course Change Request

A deleted record cannot be edited **Course Deactivation Proposal** In Workflow Date Submitted: 11/29/17 3:10 pm 1. RMINNUCL Chair **Viewing: MIN ENG 4742: Environmental Aspects Of Mining** 2. CCC Secretary File: 529.5 3. Engineering DSCC Chair Last approved: 02/09/15 3:18 am 4. Pending CCC Last edit: 11/29/17 3:10 pm Agenda post Changes proposed by: cifarellit 5. CCC Meeting In The Catalog Description: **Agenda** Other Courses GEO ENG 4276: Environmental Aspects Of Mining 6. Campus Curricula referencing this In The Prerequisites: Committee Chair course MIN ENG 6522: Mining Property Feasibility Studies And 7. FS Meeting Agenda **Evaluation Procedure** 8. Faculty Senate MIN ENG 6712: Managing Social and Environmental Risks in Chair Mining (Intro to Responsible Mining) MIN ENG 6735: Sustainability In Mining 9. Registrar CAT entry 11. Peoplesoft Requested Fall 2018 2015 **Effective Change** Date Approval Path Department Mining & Nuclear Engineering 1. 12/07/17 10:32 pm Discipline Mining Engineering (MIN ENG) Braden lusk Course Number 4742 (blusk): Approved Title for RMINNUCL **Environmental Aspects Of Mining** Chair Abbreviated **Env Aspects Of Mining** 2. 12/08/17 10:13 Course Title am **Brittany Parnell** Catalog (ershenb): Description Approved for CCC Permitting: the legal environment of reclamation and environmental impact Secretary assessment; post-mining land-use selection and mine planning for optimum 3. 01/08/18 1:50 pm reclamation of all mines: metal, nonmetal, and coal; unit operations of reclamation: sraper: Approved drainage, backfill, soil replacement, revegetation, maintenance, etc. for Engineering Prerequisites **DSCC Chair** Co-requisites: MIN ENG 4933 or GEO ENG 5441 or ENV ENG 5619. 4. 01/23/18 2:37 pm Field Trip **Brittany Parnell** Statement (ershenb):

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	Pending CCC
Required for Majors	Yes					Agenda post
Elective for	No					History
Majors	NO					1. Feb 9, 2015 by kabp3 (529.1)
Justification for						Kaups (329.1)

Course was being offered to graduate and undergraduate students under two change:

separate course numbers. 5742 was selected as the course number to utilize based

on recommendations of the curriculum committee.

Semesters previously offered as an experimental course

Co-Listed GEO ENG 4276 - Environmental Aspects Of Mining

Courses:

Course Reviewer Comments

Key: 529

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 11/29/17 2:51 pm

Viewing: MIN ENG 4823: Rock Mechanics

File: 1823.5

Last approved: 02/09/15 3:19 am Last edit: 11/29/17 2:51 pm Changes proposed by: cifarellit

GEOL-MI: Geology Minor Programs

referencing this

course

GE ENG-BS: Geological Engineering BS

Other Courses

referencing this

GEO ENG 6477 : Discontinuous Rock

course

MIN ENG 4922: Tunneling & Underground Construction

Techniques

In The Prerequisites:

MIN ENG 4933: Surface Mining Methods And Equipment

MIN ENG 5822: Strata Control

MIN ENG 6842: Advanced Rock Mechanics

MIN ENG 6843: Rock Mechanics IV

Fall 2018 2015 Requested

Effective Change

Date

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

Course Number 4823

Title **Rock Mechanics** Abbreviated **Rock Mechanics**

Course Title

Catalog

Description

Applications of the fundamental principles of mechanics to engineering problems of equilibrium, strength and stiffness of rock materials. Review of in-situ stresses, laboratory and field instrumentation, rock and rockmass properties, pillar design, roof span design, rock reinforcement, surface subsidence, slope stability, and violent

failures.

Prerequisites

In Workflow

1. RMINNUCL Chair

2. CCC Secretary

3. Engineering DSCC

Chair

4. Pending CCC

Agenda post

5. CCC Meeting

Agenda

6. Campus Curricula Committee Chair

7. FS Meeting Agenda

8. Faculty Senate

Chair

9. Registrar

10. CAT entry

11. Peoplesoft

Approval Path

1. 12/07/17 10:32

pm

Braden lusk

(blusk): Approved for RMINNUCL

Chair

2. 12/08/17 10:13

am

Brittany Parnell (ershenb):

Approved for CCC

Secretary

3. 01/08/18 1:50 pm sraper: Approved

for Engineering

DSCC Chair

4. 01/23/18 2:39 pm **Brittany Parnell**

(ershenb):

Approved for

Physics 2135; Civ	[,] Eng 2210; an	d Geology 3310.				Pending CCC
Field Trip Statement Field trip require	d.					Agenda post History
Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0	Total: 3	1. Feb 9, 2015 by cifarellit (1823.1)
Required for Majors	Yes					Charenit (1823.1)
Elective for Majors	No					
Justification for change:	Course was being offered to graduate and undergraduate students under two separate course numbers. 5823 was selected as the course number to utilize based on recommendations of the curriculum committee.					
Semesters previously offered as an experimental course						
Co-Listed Courses:						
Course Reviewer Comments						
						Key: 1823

A deleted record cannot be edited **Course Deactivation Proposal** In Workflow Date Submitted: 11/29/17 3:01 pm 1. RMINNUCL Chair **Viewing: MIN ENG 4912: Mine Power And Drainage** 2. CCC Secretary File: 1145.8 3. Engineering DSCC Chair Last approved: 06/26/17 3:15 am 4. Pending CCC Last edit: 11/29/17 3:01 pm Agenda post Changes proposed by: cifarellit 5. CCC Meeting In The Prerequisites: **Agenda** Other Courses MIN ENG 4322: Coal Mine Development And Production 6. Campus Curricula referencing this Committee Chair course 7. FS Meeting Agenda Fall Spring 2018 Requested 8. Faculty Senate **Effective Change** Chair Date 9. Registrar Department Mining & Nuclear Engineering 10. CAT entry 11. Peoplesoft Discipline Mining Engineering (MIN ENG) Course Number 4912 Approval Path Title Mine Power And Drainage 1. 12/07/17 10:32 Abbreviated Mine Power And Drainage pm Course Title Braden lusk (blusk): Approved Catalog for RMINNUCL Description Chair Engineering principles of mine power distribution and application and mine 2. 12/08/17 10:13 dewatering. Basics of electrical circuits, AC/DC power, transformers, electric meters, am power distribution, power management. Hydraulic power systems. Compressed air **Brittany Parnell** in mines. Mine dewatering. Controlling water inflow. Dewatering wells. Water (ershenb): pumping and pumping systems. Approved for CCC Prerequisites Secretary Mech Eng 2527; Civ Eng 3330 or Nuc Eng 3221. 3. 01/08/18 1:50 pm sraper: Approved Field Trip for Engineering Statement **DSCC Chair** Field trip required. 4. 01/23/18 2:43 pm LAB: 1 Credit Hours LEC: 2 IND: 0 RSD: 0 Total: 3 **Brittany Parnell** Required for Yes (ershenb): Majors Approved for

Elective for Majors	No	Pending CCC Agenda post
separate cours	eing offered to graduate and undergraduate students under two se numbers. 5912 was selected as the course number to utilize based dations of the curriculum committee.	History 1. Feb 9, 2015 by cifarellit (1145.1) 2. Jun 26, 2017 by cifarellit (1145.4)
Course Reviewe	er	

Key: 1145

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 11/29/17 3:11 pm

Viewing: MIN ENG 4932: Underground Mining Methods And

Equipment

File: 1524.4

Last approved: 06/26/17 3:15 am Last edit: 11/29/17 3:10 pm

Changes proposed by: cifarellit

MI ENG-MI: Mining Engineering Minor

referencing this

course

course

Programs

Other Courses

In The Prerequisites:

MIN ENG 4096: Computer Aided Mine Design referencing this

MIN ENG 4922: Tunneling & Underground Construction

Techniques

MIN ENG 6932 : Advanced Mining Systems MIN ENG 6935: Underground Mine Design

Requested Fall **2018** 2017

Effective Change

Date

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

4932 Course Number

Title Underground Mining Methods And Equipment

Abbreviated Ungrnd Min Meth & Equip

Course Title

Catalog

Description

Principles of planning, constructing, and operating economically viable underground mines. Cost effective mining methods: room-and-pillar, sublevel open stoping, VCR, shrinkage, sublevel caving, cut-and-fill, block caving, longwall. Selection of equipment for underground mining operations. Optimization of mine performance.

Prerequisites

Preceded or accompanied by Min Eng 3913.

In Workflow

1. RMINNUCL Chair

2. CCC Secretary

3. Engineering DSCC Chair

4. Pending CCC Agenda post

5. CCC Meeting

Agenda

6. Campus Curricula Committee Chair

7. FS Meeting Agenda

8. Faculty Senate Chair

9. Registrar

10. CAT entry

11. Peoplesoft

Approval Path

1. 12/07/17 10:32

pm

Braden lusk

(blusk): Approved for RMINNUCL

Chair

2. 12/08/17 10:14

am

Brittany Parnell (ershenb):

Approved for CCC

Secretary

3. 01/08/18 1:50 pm sraper: Approved for Engineering **DSCC Chair**

4. 01/23/18 2:45 pm **Brittany Parnell** (ershenb):

Approved for

https://nextcatalog.mst.edu/courseleaf/courseleaf.cgi?page=/courseadmin/1524/index.html... 1/23/2018

Field Trip Required.						
Credit Hours LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3 History						
Required for Tes	5, 2017 by llit (1524.1)					
Elective for No Majors						
Justification for Course was being offered to graduate and undergraduate students under two separate course numbers. 5932 was selected as the course number to utilize based on recommendations of the curriculum committee.	separate course numbers. 5932 was selected as the course number to utilize based					
Semesters previously offered as an experimental course						
Co-Listed Courses:						
Course Reviewer Comments						

Key: 1524

A deleted record cannot be edited **Course Deactivation Proposal** In Workflow Date Submitted: 12/07/17 4:39 pm 1. RMINNUCL Chair **Viewing: MIN ENG 4933: Surface Mining Methods And** 2. CCC Secretary 3. Engineering DSCC **Equipment** Chair File: 682.4 4. Pending CCC Last approved: 06/26/17 3:14 am Agenda post Last edit: 12/22/17 9:23 am 5. CCC Meeting Changes proposed by: cifarellit Agenda 6. Campus Curricula MI ENG-MI: Mining Engineering Minor Programs Committee Chair referencing this 7. FS Meeting course Agenda 8. Faculty Senate In The Prerequisites: Other Courses Chair GEO ENG 4276: Environmental Aspects Of Mining referencing this 9. Registrar MIN ENG 4096: Computer Aided Mine Design course 10. CAT entry MIN ENG 4742: Environmental Aspects Of Mining 11. Peoplesoft MIN ENG 5933: Advanced Surface Mining Methods MIN ENG 6932: Advanced Mining Systems Approval Path MIN ENG 6936: Surface Mine Design 1. 11/27/17 7:14 pm Fall 2018 2017 Braden lusk Requested **Effective Change** (blusk): Approved for RMINNUCL Date Chair Department Mining & Nuclear Engineering 2. 11/28/17 10:30 Discipline Mining Engineering (MIN ENG) **Brittany Parnell** Course Number 4933 (ershenb): Title Surface Mining Methods And Equipment Approved for CCC Abbreviated Surface Min Mth & Equip Secretary Course Title 3. 11/30/17 2:02 pm sraper: Rollback Catalog to CCC Secretary Description for Engineering Principles of planning, constructing, and operating economically viable surface **DSCC Chair** mines. Cost effective mining methods: placer mining, strip mining, open pit mining, 4. 11/30/17 2:30 pm quarrying. Selection of equipment for surface mining operations. Optimization of **Brittany Parnell** mine performance. (ershenb): Prerequisites

Field Trip Statement Field trip requir	ed.		·	oy Min Eng 4823.		5.	Rollback to Initiator 12/07/17 10:32 pm Braden lusk
Credit Hours Required for Majors Elective for Majors	Yes No	LAB: 0	IND: 0	RSD: 0	Total: 3	6.	(blusk): Approved for RMINNUCL Chair 12/08/17 10:21 am Brittany Parnell
separate course	ng offered to go numbers. 593	raduate and und	s the course num	ents under two nber to utilize bas	sed	8.	(ershenb): Approved for CCC Secretary 12/22/17 9:23 am sraper: Rollback to CCC Secretary for Engineering DSCC Chair 12/22/17 9:48 am Brittany Parnell (ershenb): Approved for CCC Secretary 01/08/18 1:39 pm
Courses:							sraper: Approved
Course Reviewer							for Engineering DSCC Chair
ershenb (11/30 of Tina Alobaida	/17 2:30 pm): an 17 9:23 am): Ro	ollback: Wrong fo Rollback: Wrong ollback: per emai	form submitted.	Rollback per req nis needs course	uest	10.	01/23/18 2:47 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
						Key: 682	-

History

1. Jun 26, 2017 by cifarellit (682.1)

Date Submitted: 10	/31/17 11:59 am	
Viewing: MIN	NG 5113 : Advanced-Mine Atmosphere Control	In Workflow
File: 1257.1	•	1. RMINNUCL Chair
Last edit: 01/08/1	8 1:40 pm	2. CCC Secretary
Changes proposed	·	3. Engineering DSCC Chair
Programs	MI ENG-BS: Mining Engineering BS	4. Pending CCC Agenda post
referencing this		5. CCC Meeting
course		Agenda
		6. Campus Curricula
Requested	Fall 2018 08/01/2014	Committee Chair
Effective Change		7. FS Meeting
Date		Agenda
Department	Mining & Nuclear Engineering	8. Faculty Senate
Discipline	Mining Engineering (MIN ENG)	Chair
Course Number	5113	 Registrar CAT entry
Title	Advanced-Mine Atmosphere Control	11. Peoplesoft
Abbreviated	·	
Course Title	Adv-Mine Atmosphere Control	Approval Path
- Course Title	Control	1. 11/27/17 7:15 pm
Catalog	Fundamentals of Advanced mine ventilation, including the principles of airflow,	Braden lusk
Description	ventilation network based on airflow requirements, control of of gases, dust, and	(blusk): Approved
	temperature, methane drainage, mine fans, network theory, computer network	for RMINNUCL
	simulation, and economics of airflow, with emphasis on analysis, systems design	Chair
	and practical application. theory based on the Code of Federal Regulations. Computer simulation of ventilation systems, mine fire simulation, and economics of	2. 11/28/17 10:43
	airflow based on underground mine layouts.Research paper or design project	am Brittany Barnell
	required.	Brittany Parnell (ershenb):
Prerequisites	Mech 2527 and Civ Mi-Eng 3330 4113 or Nuc Eng 3221. Consent of Instructor.	Approved for CCC
·	The strain of the lang soot into the strain of the strain	Secretary
Field Trip		3. 01/08/18 1:40 pm
Statement		sraper: Approved
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	for Engineering
Required for	Yes No	DSCC Chair 4. 01/23/18 2:50 pm
Majors		Brittany Parnell
Elective for	No	(ershenb):
Majors		Approved for
Justification for	Course was being offered to graduate and undergraduate students under two	Pending CCC
change:	separate course numbers. 5113 was selected as the course number to utilize based	Agenda post
	on recommendations of the curriculum committee.	
Semesters		
previously		
offered as an		
experimental		

Co-Listed Courses:	
Course Reviewer Comments	sraper (01/08/18 1:40 pm): Changed to "Required for Majors" with new DC form showing as required.
	Key: 1257

A deleted record ca	nnot be edited	
	Course Deactivation Proposal	In Workflow
Date Submitted: 11	/29/17 2:53 pm	1. RMINNUCL Chair
Viewing: MIN E	NG 5122: Advanced Topics in Mine Health and Safety	2. CCC Secretary
File: 2505.1		3. Engineering DSC
Last edit: 11/29/1	7 2:53 pm	Chair
Changes proposed l	py: cifarellit	4. Pending CCC
Requested	Fall 2018 08/01/2014	Agenda post
Effective Change		5. CCC Meeting
Date		Agenda 6. Campus Curricula
Department	Mining & Nuclear Engineering	Committee Chair
Discipline	Mining Engineering (MIN ENG)	7. FS Meeting
•		Agenda
Course Number	5122	8. Faculty Senate
Title	Advanced Topics in Mine Health and Safety	Chair
Abbreviated	Adv Mine Health and Safety	 Registrar CAT entry
Course Title		11. Peoplesoft
Catalog	Advanced topics in mine health and safety including practices and regulations; risks	II. respiesore
Description	and hazards recognition, mitigation and control; disaster prevention and control.	Approval Path
•	Students will complete a research paper or project report. Pre-requisite: Mi Eng	1. 12/07/17 10:32
	4122 or Consent of Instructor.	pm
Prerequisites		Braden lusk
Field Trip		(blusk): Approved
Statement		for RMINNUCL
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	Chair
		2. 12/08/17 10:25
Required for	No	am Brittany Parnell
Majors		(ershenb):
Elective for	No	Approved for CCC
Majors		Secretary
Justification for	Course was being offered to graduate and undergraduate students under two	3. 01/08/18 1:50 pn
change:	separate course numbers. 4122 was selected as the course number to utilize based	sraper: Approved
	on recommendations of the curriculum committee.	for Engineering
Semesters		DSCC Chair
previously		4. 01/23/18 2:52 pr Brittany Parnell
offered as an		(ershenb):
experimental		Approved for
course		Pending CCC
Co-Listed		Agenda post
Courses:		I
Course Reviewer		
Comments		

Date Submitted: 10	/31/17 12:07	pm					
Viewing: MIN E	NG 521	2 : Advan	ced -Aggre	gates and	Quarrying	In	Workflow
File: 825.1							RMINNUCL Chair
Last edit: 11/29/1	7 9:36 am						CCC Secretary Engineering DSCC
Changes proposed b	oy: cifarellit					3.	Chair
	MI ENG-BS:	Mining Enginee	ring BS			4.	Pending CCC
Programs			<u></u>				Agenda post
referencing this						5.	CCC Meeting
course							Agenda
Requested	Fall 2018 0	2/01/2014				6.	Campus Curricula
Effective Change	Fall 2010 O	3/01/2014				_	Committee Chair
Date						/.	FS Meeting Agenda
Donartmont	Mining 9. N	uclear Engineeri	ng			8.	Faculty Senate
Department		_	_				Chair
Discipline	Mining Eng	ineering (MIN E	NG)			9.	Registrar
Course Number	5212					10.	CAT entry
Title	Advanced A	nggregates and C	Quarrying			11.	Peoplesoft
Abbreviated	Adv.Aggreg	ates and &				i	
Course Title	Quarrying					A	pproval Path
Catalog Description Advanced covera surface and unde transportation, a	erground ope	rations, plant ed ental topics. The	quipment, econo e course will incl	mics, marketing, ude at least one	field		-11/27/17 7:15 pm Braden lusk (blusk): Approved for RMINNUCL Chair 11/28/17 10:51
trip and a design		•	• •	•	ld		am
planning, and pro	•		, .				Brittany Parnell
paper required.	innology for th	ic aggregates in	austry.Design pro	oject of rescuren			(ershenb): Approved for CCC
Prerequisites							Secretary
Min Eng 3912, co	o-requisite: Ci	v Eng 3116. Mi E	ing 4212 or Cons	ent of Instructor	.	3.	01/08/18 1:42 pm
Field Trip							sraper: Approved
Statement							for Engineering
						4	DSCC Chair 01/23/18 3:44 pm
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	٠.	Brittany Parnell
Required for	No						(ershenb):
Majors	140						Approved for
Elective for	Yes No						Pending CCC
Majors	163 140						Agenda post

Justification for Course was being offered to graduate and undergraduate students under two separate course numbers. 5212 was selected as the course number to utilize based on recommendations of the curriculum committee.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments

sraper (11/29/17 9:36 am): checked "elective for majors"

Key: 825

Date Submitted: 10, Viewing: MIN E File: 839.1	31/17 12:11 pm NG 5322 : Advanced-Coal Mining Methods	In Workflow 1. RMINNUCL Chair 2. CCC Secretary
Last edit: 11/29/1 Changes proposed b	3. Engineering DSCC	
Programs referencing this course	MI ENG-BS: Mining Engineering BS	4. Pending CCC Agenda post 5. CCC Meeting Agenda
Requested Effective Change Date	Fall 2018 08/01/2014	6. Campus Curricula Committee Chair 7. FS Meeting Agenda
Department	Mining & Nuclear Engineering	8. Faculty Senate
Discipline	Mining Engineering (MIN ENG)	Chair 9. Registrar
Course Number	5322	10. CAT entry
Title	Advanced-Coal Mining Methods	11. Peoplesoft
Abbreviated	Adv-Coal Mining Methods	I I
Course Title	Coal Milling Methods	Approval Path
Catalog Description	An in-depth study Advanced topics in coal mining methods, planning and development of all aspects surface and underground mining systems; planning coal mining, including an overview of the logistics, resources, infrastructure for large-scale surface coal industry, reserves and geology, planning and developm of mines; face preparation, equipment interface, haulage systems, sequencing scheduling and extraction from underground coal mines, surface and underground mechanized methods of face preparation, equipment, coal extraction, handling and preparation as practiced in the United States. mines. Students will complete research paper or project report.	for RMINNUCL Chair chand
Prerequisites Field Trip	Min Eng 5912 4 322 or consent Consent of instructor. Instructor.	Secretary 3. 01/08/18 1:42 pn sraper: Approved
Statement Cradit Hours	LEG 2 LADLO INDLO BCD-O T-4-1-2	for Engineering
Credit Hours Required for Majors	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3 No	DSCC Chair 4. 01/23/18 3:51 pn Brittany Parnell
Elective for Majors	Yes No	(ershenb): Approved for Pending CCC
Justification for change:	Course was being offered to graduate and undergraduate students under two separate course numbers. 5322 was selected as the course number to utilize be on recommendations of the curriculum committee.	Agenda post
Semesters previously offered as an		

experimental course		
Co-Listed Courses:		
Course Reviewer Comments	sraper (11/29/17 10:38 am): checked "elective for majors"	
		Key: 839

Date Submitted: 10	/31/17 11:34 ar	m				
Viewing: MIN	ENG 5412	: Advan	ced -Aggre	gates Mat	erials Sizing	In Workflow
and Characterization File: 1930.1 Last edit: 11/29/17 10:57 am Changes proposed by: cifarellit					 RMINNUCL Chair CCC Secretary Engineering DSCC Chair Pending CCC 	
Programs referencing this course	MI ENG-BS: N	Mining Enginee	ering BS			Agenda post 5. CCC Meeting Agenda 6. Campus Curricula Committee Chair
Requested Effective Change Date	Fall 2018 08/	/01/2014				7. FS Meeting Agenda8. Faculty Senate Chair
Department	Mining & Nu	clear Engineer	ing			9. Registrar
Discipline	Mining Engin	eering (MIN EI	NG)			10. CAT entry
Course Number	5412					11. Peoplesoft
Title	Advanced Ag	gregates Mate	erials Sizing and O	Characterization		Approval Path
Abbreviated	Aggregates S	Size and Char				1. 11/27/17 7:15 pm
Course Title	Adv.Aggregat	tes Siz.& Char.				Braden lusk
properties occur processing and the specifications elections classifications classifications classifications classifications classifications control in the	rences, extraction in the control of	on, material fleents; aggregat canced statistic canced statistic calysis; quality o	ow sheet analysices for specific en al methods for quassification, assu control and assu	nd-user application uality control and rance, and washi rance. standards.	ons; ng);	(blusk): Approved for RMINNUCL Chair 2. 11/28/17 10:59 am Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:42 pm
Prerequisites Min Mi-Eng 2412	2 4412 or conse l	nt Consent of i	nstructor. Instru	ctor.		sraper: Approved
Field Trip Statement Field trip to a nea	arby quarry req	uired.				DSCC Chair 4. 01/23/18 3:55 pm Brittany Parnell (ershenb):
Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0	Total: 3	Approved for
Required for Majors	No					Pending CCC Agenda post

Elective for Majors	Yes No
Justification for change:	Course was being offered to graduate and undergraduate students under two separate course numbers. 5412 was selected as the course number to utilize based on recommendations of the curriculum committee.
Semesters previously offered as an experimental course Co-Listed Courses:	
Course Reviewer Comments	sraper (11/29/17 10:57 am): checked "Elective for majors"

Key: 1930

Date Submitted: 10/31/17 12:16 pm

Viewing: MIN ENG 5413: Material Processing by High Pressure

Water Jet Adv Mtl Proc Hghpres Wtr Jet

File: 500.1

Last edit: 11/29/17 11:04 am Changes proposed by: cifarellit

Requested Fall 2018 08/01/2014

Effective Change

Date

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

Course Number 5413

Title Material Processing by High Pressure Water Jet Adv Mtl Proc Highpres

Wtr Jet

Abbreviated Adv Mtl Proc Hghpres Wtr Jet

Course Title

In Workflow

- 1. RMINNUCL Chair
- 2. CCC Secretary
- 3. Engineering DSCC Chair
- 4. Pending CCC Agenda post
- 5. CCC Meeting Agenda
- Campus Curricula Committee Chair
- 7. FS Meeting
 Agenda
- 8. Faculty Senate

Chair

- 9. Registrar10. CAT entry
- 11. Peoplesoft

Catalog

Description

Methods of generating high pressure water jets; standard equipment, existing techniques and basic calculations. Applications of water jets to materials cutting and mineral processing. Safety rules. The course will be supported by laboratory demonstrations. Advanced methods for continuously generating high pressure, power calculations, applications of waterjets in the mining and manufacturing industries, and safety considerations. Research paper or design project required.

Prerequisites

Co-listed with Mech Eng 5606. Mi Eng 4413 or Consent of Instructor.

Field Trip Statement

Credit Hours LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3

Required for No

Majors

Elective for Yes No

Majors

Justification for

change:

Approval Path

 1. 11/27/17 7:15 pm Braden lusk

(blusk): Approved for RMINNUCL

Chair

2. 11/28/17 11:17

am

Brittany Parnell (ershenb):

Approved for CCC Secretary

3. 01/08/18 1:43 pm sraper: Approved for Engineering DSCC Chair

4. 01/23/18 4:01 pm Brittany Parnell (ershenb):

Approved for Pending CCC Agenda post

Course was being offered to graduate and undergraduate students under two separate course numbers. 5413 was selected as the course number to utilize based on recommendations of the curriculum committee.

Semesters

previously

offered as an

experimental

course

Co-Listed

MECH ENG 5606 - Material Processing By High-Pressure Water Jet

Courses:

Course Reviewer

sraper (11/29/17 11:04 am): checked "elective for majors"

Comments

Key: 500

Date Submitted: 10/31/17 12:22 pm

Viewing: MIN ENG 5422: Advanced-Coal Preparation

File: 2019.1

Last edit: 11/29/17 11:14 am Changes proposed by: cifarellit

Requested Fall 2018 08/01/2014

Effective Change

Date

Department Mining & Nuclear Engineering
Discipline Mining Engineering (MIN ENG)

Course Number 5422

Title Advanced Coal Preparation

Abbreviated Advanced Coal Preparation

Course Title

Description

Catalog

Coal properties, sampling, testing, breaking, sizing, cleaning and dewatering.

Disposal of refuse. Advanced methods for designing coal processing circuitry and practices, flowsheet design, sampling, advanced ash and moisture analyzers; coarse, intermediate, and fine coal cleaning; dewatering; dry coal cleaning

research.Research paper or design project required.

Prerequisites

Min Mi Eng 2412 4422 or consent Consent of instructor. Instructor.

Field Trip Statement

Credit Hours LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3

Required for No

Majors

Elective for Yes No

Majors

Justification for

change:

Course was being offered to graduate and undergraduate students under two separate course numbers. 5422 was selected as the course number to utilize based on recommendations of the curriculum committee.

In Workflow

- 1. RMINNUCL Chair
- 2. CCC Secretary
- 3. Engineering DSCC Chair
- 4. Pending CCC
- Agenda post
- CCC Meeting Agenda
- Campus Curricula Committee Chair
- 7. FS Meeting
 Agenda
- 8. Faculty Senate Chair
- 9. Registrar
- 10. CAT entry
- 11. Peoplesoft

Approval Path

- 11/27/17 7:16 pm Braden lusk (blusk): Approved for RMINNUCL
 - Chair
- 2. 11/28/17 11:20

am

Brittany Parnell (ershenb):

Approved for CCC Secretary

- 3. 01/08/18 1:43 pm sraper: Approved for Engineering DSCC Chair
- 4. 01/23/18 4:03 pm
 Brittany Parnell
 (ershenb):
 Approved for
 Pending CCC
 Agenda post

Semesters	
previously	
offered as an	
experimental	
course	
Co-Listed	
Courses:	
Course Reviewer	sraper (11/29/17 11:14 am): checked "elective for majors"
Comments	• • • • • • • • • • • • • • • • • • • •

Key: 2019

Date Submitted: 10,		In Workflow
Viewing: MIN E	NG 5423: Advanced-Flotation and Hydrometallurgy	
File: 1028.1		1. RMINNUCL Chair 2. CCC Secretary
Last edit: 11/29/1	7 11:36 am	3. Engineering DSC
Changes proposed b	py: cifarellit	Chair
Requested	Fall 2018 08/01/2014	4. Pending CCC
Effective Change		Agenda post
Date		5. CCC Meeting
Department	Mining & Nuclear Engineering	Agenda
•		6. Campus Curricula
Discipline	Mining Engineering (MIN ENG)	Committee Chair
Course Number	5423	7. FS Meeting
Title	Advanced-Flotation and Hydrometallurgy	Agenda 8. Faculty Senate
Abbreviated	Flotation and Hydromet Adv	Chair
Course Title	Flotat & Hydromet	9. Registrar
		10. CAT entry
Catalog	Forth flotation including mineral surfaces, double layer theory, zeta potential,	11. Peoplesoft
Description	hydrophbicity, adsorption, collectors, frothers, modulation, kinetics, and sulphide	
	and acid flotation systems. Hydrometallurgy including leaching, ion exchange and	Approval Path
	liquid/liquid extraction. Theoretical basis of froth flotation, electrical characteristics at interfaces, interfacial forces, adsorption kinetics and thermodynamics, flotation	1. 11/27/17 7:16 pr
	reagents, flotation process flowsheets.Physicochemical principles of	Braden lusk
	hydrometallurgical processes, leaching methods and reagents. Hydrometallurgical	(blusk): Approved
	processes flowsheets.Research paper or design project required.	for RMINNUCL
Prerequisites	Min Mi-Eng 2412 4423-or consent Consent-of instructor. Instructor.	Chair
•	The English Consent Consent of Manager	2. 11/28/17 11:33
Field Trip Statement		am Brittony Bornell
		Brittany Parnell (ershenb):
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	Approved for CCC
Required for	No	Secretary
Majors		3. 01/08/18 1:43 pr
Elective for	Yes No	sraper: Approved
Majors		for Engineering
		DSCC Chair
Justification for change:	Course was being offered to graduate and undergraduate students under two separate course numbers. 5423 was selected as the course number to utilize based	4. 01/23/18 4:05 pr
change.	on recommendations of the curriculum committee.	Brittany Parnell
6		(ershenb): Approved for
Semesters previously		Pending CCC
offered as an		Agenda post
experimental		
course		
Co-Listed		
Courses:		
Course Reviewer	sraper (11/29/17 11:36 am): checked "elective for majors"	
Comments		

Date Submitted: 10/31/17 12:38 pm In Workflow Viewing: MIN ENG 5424: Mineral Processing II Advanced Mechanics And 1. RMINNUCL Chair Design 2. CCC Secretary 3. Engineering DSCC File: 956.1 Chair Last edit: 11/29/17 11:59 am 4. Pending CCC Changes proposed by: cifarellit Agenda post Fall 2018 08/01/2014 Requested 5. CCC Meeting **Effective Change** Agenda Date 6. Campus Curricula Committee Chair Department Mining & Nuclear Engineering 7. FS Meeting Discipline Mining Engineering (MIN ENG) Agenda Course Number 5424 8. Faculty Senate Chair Title Mineral Processing II Advanced Mechanics And Design 9. Registrar Abbreviated **Mineral Processing II** 10. CAT entry Course Title Advanced Mechanics & 11. Peoplesoft Design Strategy of beneficiation as a combination of unit operations: Mineral sampling and Approval Path Catalog Description particle size distribution, mineral particle-mechanics of comminution, sizing, 1. 11/27/17 7:16 pm minution and energy requirement, mineral crushing and grinding circuits, Braden lusk classification, concentration, filtering and thickening. solid liquid sepa (blusk): Approved instrumentation, Mineral processing plant flow sheet design. Mill and equipment for RMINNUCL selection and design including flowsheet, development and plant assessment. Chair Research paper or design project required. 2. 11/28/17 11:37 am Prerequisites Min Eng 2412. (Co-listed with Met Eng 5270). Mi Eng 4424 or Consent of Instructor. **Brittany Parnell** Field Trip (ershenb): Statement Approved for CCC **Credit Hours** LEC: 2 RSD: 0 LAB: 1 IND: 0 Total: 3 Secretary 3. 01/08/18 1:43 pm Required for No sraper: Approved Majors for Engineering Elective for Yes No DSCC Chair Majors 4. 01/23/18 4:08 pm **Brittany Parnell** Course was being offered to graduate and undergraduate students under two Justification for (ershenb): separate course numbers. 5424 was selected as the course number to utilize based change: Approved for on recommendations of the curriculum committee. Pending CCC Semesters Agenda post previously offered as an experimental course MET ENG 5270 - Mineral Processing II (Mechanics and Design) Co-Listed Courses: sraper (11/29/17 11:59 am): checked "elective for majors" Course Reviewer Comments

Rey: 956
Preview Bridge

Date Submitted: 10, Viewing: MIN E File: 1344.1 Last edit: 01/08/1 Changes proposed b	ENG 5522 : Advanced-Ore Reserve Analysis and And-Geostatistics 8 1:44 pm	In Workflow 1. RMINNUCL Chair 2. CCC Secretary 3. Engineering DSCC Chair
Programs referencing this course	MI ENG-BS: Mining Engineering BS	4. Pending CCC Agenda post 5. CCC Meeting Agenda
Requested Effective Change Date	Fall 2018 08/01/2014	Campus Curricula Committee Chair FS Meeting Agenda
Department	Mining & Nuclear Engineering	8. Faculty Senate
Discipline	Mining Engineering (MIN ENG)	Chair 9. Registrar
Course Number	5522	10. CAT entry
Title	Advanced Ore Reserve Analysis and And Geostatistics	11. Peoplesoft
Abbreviated	Ore Rsr Anly & Geostat Adv	
Course Title	Ore Rsrv Anlys&Geostat	Approval Path
Catalog Description	Principles Advanced discussions on principles of geostatistics, theory of spatially correlated random variables, variance and co-variances and their application on the evaluation of mineral resources, ore reserve estimation, strategic exploration, and production planning. Real case studies from mining industry will be presented. Course project.	Braden lusk (blusk): Approved for RMINNUCL Chair 2. 11/28/17 12:13
Prerequisites Field Trip Statement	Math 3304 and & Stat 3113 or Stat 3115 or consent of instructor. instructor consent.	pm Brittany Parnell (ershenb): Approved for CCC Secretary
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	3. 01/08/18 1:44 pm
Required for Majors	Yes No	sraper: Approved for Engineering DSCC Chair
Elective for Majors	No	4. 01/23/18 4:12 pm Brittany Parnell
Justification for change:	Course was being offered to graduate and undergraduate students under two separate course numbers. 5522 was selected as the course number to utilize based on recommendations of the curriculum committee.	(ershenb): Approved for Pending CCC
Semesters previously offered as an experimental course Co-Listed Courses:		Agenda post

Course Reviewer sraper (01/08/18 1:44 pm): Change to "Required for Majors" as reflected on new

Comments

Key: 1344

Date Submitted: 10/31/17 12:50 pm In Workflow **Viewing: MIN ENG 5742: Advanced-Environmental Aspects of** 1. RMINNUCL Chair Mining 2. CCC Secretary 3. Engineering DSCC File: 1599.1 Chair Last edit: 01/08/18 1:45 pm 4. Pending CCC Changes proposed by: cifarellit Agenda post **Economics** 5. CCC Meeting Catalog Pages Agenda referencing this 6. Campus Curricula course Committee Chair MI ENG-BS: Mining Engineering BS 7. FS Meeting **Programs** Agenda referencing this 8. Faculty Senate course Chair In The Prerequisites: 9. Registrar Other Courses MIN ENG 6712: Managing Social and Environmental Risks in 10. CAT entry referencing this Mining (Intro to Responsible Mining) 11. Peoplesoft course Requested Fall 2018 08/01/2014 Approval Path **Effective Change** 1. 11/27/17 7:16 pm Date Braden lusk (blusk): Approved Department Mining & Nuclear Engineering for RMINNUCL Discipline Mining Engineering (MIN ENG) Chair Course Number 5742 2. 11/28/17 11:53 am Title Advanced Environmental Aspects of Mining **Brittany Parnell** Abbreviated Adv Aspects of Mining (ershenb): Course Title Approved for CCC Secretary Catalog 3. 01/08/18 1:45 pm Description sraper: Approved Permitting: permitting - Applied and fundamental research issues pertaining to:the for Engineering legal environment of reclamation and environmental impact assessment; post-**DSCC Chair** mining land-use selection and mine planning for optimum reclamation of all mines: 4. 01/23/18 4:18 pm metal, nonmetal, and coal; unit operations of reclamation: drainage, backfill, soil **Brittany Parnell** replacement, revegetation, maintenance, etc. Course project. (ershenb): Prerequisites Approved for Co-requisites: Min Eng 5932 and 5933 or Geo Eng 5441 or Env Eng 5619 or consent Pending CCC of instructor. instructor consent. (Co-listed with Geo Eng 5276). Agenda post

Comments

DC form.

Course Reviewer	sraper (01/08	3/18 1:45 pm): (Changed to "Red	guired for Major	s" as reflected on new	
Co-Listed Courses:	GEO ENG 527	'6 - Advanced E	nvironmental A	spects Of Minin	g	
Semesters previously offered as an experimental course						
Justification for change:	separate cour	_	42 was selected	d as the course n	udents under two umber to utilize based	
Elective for Majors	No					
Required for Majors	Yes No					
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	
Field Trip Statement						

Kev: 159

Date Submitted: 10,	/31/17 11:02 am	
/iewing: MIN E	NG 5823 : Rock Mechanics III	In Workflow
File: 590.1		1. RMINNUCL Chair
	9.4.21 pm	2. CCC Secretary
Last edit: 01/23/1 Changes proposed b		3. Engineering DSCC Chair
	MI ENG-BS: Mining Engineering BS	4. Pending CCC
Programs		Agenda post
referencing this		5. CCC Meeting
course		Agenda
Requested	Fall 2018 08/01/2014	6. Campus Curricula
Effective Change	1 dii 2010 00/01/2014	Committee Chair
Date		7. FS Meeting
	Mining 9 Nuclear Engineering	Agenda 8. Faculty Senate
Department	Mining & Nuclear Engineering	Chair
Discipline	Mining Engineering (MIN ENG)	9. Registrar
Course Number	5823	10. CAT entry
Title	Rock Mechanics ##	11. Peoplesoft
Abbreviated	Rock Mechanics ##	
Course Title		Approval Path
Catalaa	A collection of the foundation	1. 11/27/17 7:16 pr
Catalog Description	Applications of the fundamental principles of mechanics to engineering problems of equilibrium, strength and stiffness of rock materials. Review of in-situ stresses,	Braden lusk
Description	laboratory and field instrumentation, rock and rockmass properties. Advanced	(blusk): Approved for RMINNUCL
	methods for designing rock excavation to resolve geotechnical and ground control	Chair
	problems. Ground Control; Topics including stress analysis, rock properties,	2. 11/28/17 11:57
	instrumentation, pillar design, roof span design, rock reinforcement, surface	am
	subsidence, slope stability , rock burst, and violent failure . slop stability . Research	Brittany Parnell
	paper or design project required.	(ershenb):
Prerequisites	Physics 2135; Civ Eng 2210; Geology 3310. Field trip required. Mi Eng 4823 or	Approved for CCC
·	Consent of Instructor.	Secretary
Field Trip		3. 01/08/18 1:46 pn
Statement		sraper: Approved
	LEC. 2 LAD. 4 IND. 0 DCD. 0 Tabel, 2	for Engineering DSCC Chair
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	4. 01/23/18 4:21 pn
Required for	Yes No	Brittany Parnell
Majors		(ershenb):
Elective for	No	Approved for
Majors		Pending CCC
Justification for	Existing 4823 was being taught to grad students under this description and course	Agenda post
change:	number. There is no need for duplicate course numbers and 5823 was selected on	
	the recommendation of the curriculum committee. Degree changes are being	
	applied to reflect this change as 4823 is a required undergraduate course.	
Semesters		
previously		
offered as an		
experimental		
course		

Co-Listed Courses:

Course Reviewer sraper (01/08/18 1:46 pm): Changed to "Required for Majors" as reflected on new

Comments DC form.

Key: 590

Date Submitted: 10,	/31/17 11:55 am					
/iewing: MIN E	NG 5912 :	Advanc	ed Mine	Power and	And Drainage	In Workflow
File: 1696.1		7 10.1 2 0.11				1. RMINNUCL Chair
ast edit: 01/08/1	2 1·16 nm					2. CCC Secretary
Changes proposed b						3. Engineering DSCC Chair
	MI ENG-BS: Mir	ning Engineei	ring BS			4. Pending CCC
Programs						Agenda post
referencing this						5. CCC Meeting
course						Agenda
Poguested	Fall 2018 08/01	/2014				6. Campus Curricula
Requested Effective Change	Fall 2018 00/01	./2014				Committee Chair
Date						7. FS Meeting
						Agenda 8. Faculty Senate
Department	Mining & Nucle	ear Engineerii	ng			Chair
Discipline	Mining Enginee	ering (MIN EN	G)			9. Registrar
Course Number	5912					10. CAT entry
Title	Advanced-Mine	Power and	And Drainage			11. Peoplesoft
Abbreviated Course Title	Adv-Mine Powe Drainage	er and &				Approval Path
						1. 11/27/17 7:17 pn
Catalog	Engineering pri	inciples of m	i <mark>ne</mark> Advanced m	ethods for evalua	ting electric power	Braden lusk
Description		•	• •		g geometries; Design	(blusk): Approved
				· ·	Juirements, layouts	for RMINNUCL
		_		g formations; Ris		Chair
				ring. flooding. Ba 		2. 11/28/17 12:18
		-		· · ·	distribution, and	pm
	_		-	-	air in mines. Mine	Brittany Parnell
	_	_	paper or projec	_	ter pumping and	(ershenb): Approved for CCC
				•		Secretary
Prerequisites	Mech Mi-Eng 2	527 and Civ I	E ng 3330 4912 o	r Nuc Eng 3221.	Consent of Instructor.	3. 01/08/18 1:46 pm
Field Trip						sraper: Approved
Statement						for Engineering
Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0	Total: 3	DSCC Chair
Required for	Yes No					4. 01/23/18 4:24 pm
Majors	Tes No					Brittany Parnell
•						(ershenb):
Elective for	No					Approved for
Majors						Pending CCC
Justification for	Course was bei	ng offered to	graduate and u	ndergraduate stu	dents under two	Agenda post
change:	separate course	e numbers. 5	912 was selecte	d as the course n	umber to utilize based	
	on recommend	ations of the	curriculum com	mittee.		
Semesters						
previously						
offered as an						
experimental						
-						

Co-Listed Courses:	
Course Reviewer	sraper (01/08/18 1:46 pm): Change to "Required for Majors" as reflected on new DC
Comments	form.
	Key: 169

Date Submitted: 10	/31/17 12:59 pm	
/iewing: MIN E	ENG 5932 : Advanced-Underground Mining	In Workflow
Methods		1. RMINNUCL Chair
		2. CCC Secretary 3. Engineering DSC
File: 2264.1	0.4.47	Chair
ast edit: 01/08/1	•	4. Pending CCC
Changes proposed I	by: cifarellit	Agenda post
Programs referencing this course	MI ENG-BS: Mining Engineering BS	5. CCC Meeting
	In The Prerequisites:	Committee Chair
Other Courses	MIN ENG 5742 : Advanced Environmental Aspects of Mining	7. FS Meeting Agenda
referencing this	WINVERTO 37-42 : Mavaneca Environmental Mapeets of Williams	8. Faculty Senate
course		Chair
Requested	Fall 2018 08/01/2014	9. Registrar
Effective Change	1 all 2010 00/01/2014	10. CAT entry
Date		11. Peoplesoft
Department	Mining & Nuclear Engineering	Approval Path
Discipline	Mining Engineering (MIN ENG)	
Course Number	5932	1. 11/27/17 7:17 pn Braden lusk
		(blusk): Approved
Title	Advanced-Underground Mining Methods	for RMINNUCL
Abbreviated	Underground Mining Mth	Chair
Course Title	Adv Ungrnd Min Meth &	2. 11/28/17 12:22
	Equip	pm
Catalog		Brittany Parnell
Description		(ershenb):
Principles of Adv	anced methods for designing, planning, constructing, developing	Approved for CCC Secretary
and operating ec	onomically viable economic and efficient underground mines.	3. 01/08/18 1:47 pr
= -	Cost effective mining methods: room-and-pillar, sublevel open	sraper: Approved
	rinkage, sublevel caving, cut-and-fill, block caving, longwall.	for Engineering
	pment for underground mining operations. Optimization of mine eld trip Required. Systems include mass mining methods, room and	DSCC Chair
	4. 01/23/18 4:28 pr	
	ut and fill with equipment, ventilation and drainage control ch paper or design project required.	Brittany Parnell
	in paper or design project required.	(ershenb):
Prerequisites	4022 or accompanied by Mir Fire 2042 arranged Council of	Approved for
Preceded Will Foo	4932 or accompanied by Min Eng 3913 or consent Consent of	Pending CCC

Field Trip Statement					
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
Required for Majors	Yes No				
Elective for Majors	No				
Justification for change:	separate cour	eing offered to gr se numbers. 593 ndations of the cu	2 was selected a	s the course nun	ents under two nber to utilize based
Semesters previously offered as an experimental course Co-Listed					
Courses:					
Course Reviewer Comments	sraper (01/08 DC form.	3/18 1:47 pm): Ch	nanged to "Requ	red for Majors"	as reflected on new

Key: 226

Date Submitted: 10	/31/17 1:03 pm	
_	ENG 5933 : Advanced-Surface Mining Methods	In Workflow 1. RMINNUCL Chair
File: 2265.1		2. CCC Secretary
Last edit: 01/08/1	·	3. Engineering DSCC
Changes proposed	py: cifarellit	Chair
Programs	MI ENG-BS: Mining Engineering BS	4. Pending CCC Agenda post
referencing this		5. CCC Meeting
course		Agenda
		6. Campus Curricula
Requested	Fall 2018 08/01/2014	Committee Chair
Effective Change		7. FS Meeting
Date		Agenda
Department	Mining & Nuclear Engineering	8. Faculty Senate
Discipline	Mining Engineering (MIN ENG)	Chair
Course Number	5933	 Registrar CAT entry
		11. Peoplesoft
Title	Advanced-Surface Mining Methods	11. Feoplesoft
Abbreviated	Adv-Surface Mining Methods	Anaroval Dath
Course Title		Approval Path
Catalog	Principles of Advanced topics in surface mine planning, constructing, methods and	1. 11/27/17 7:17 pm
Description	operating economically viable surface mines. equipment acquisition, and	Braden lusk
Description	deployment in surface mining operations. Cost effective mining methods: placer	(blusk): Approved for RMINNUCL
	mining, strip mining, open pit mining, quarrying. Selection of equipment for	Chair
	surface mining operations. Optimization of mine performance. Field trip required.	2. 11/28/17 12:24
	Strategic and tactical mine planning with focus on efficiency, safety, environmental	pm
	standards and economics.It will also focus on fleet management with emphasis on	Brittany Parnell
	repair, rebuild and replacement for higher availabilities, utilization and production	(ershenb):
	output.Students will complete a research paper or project report.	Approved for CCC
Prerequisites	Min Eng 3912 ; Min Eng 3512 ; preceded 4933 or accompanied by Min Eng 5823 or consent Consent of instructor. Instructor.	Secretary 3. 01/08/18 1:48 pm
Field Trip		sraper: Approved for Engineering
Statement		DSCC Chair
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	4. 01/24/18 9:17 am
Required for	Yes No	Brittany Parnell
Majors		(ershenb):
Elective for	No	Approved for
Majors	No	Pending CCC
iviajo13		Agenda post
Justification for	Course was being offered to graduate and undergraduate students under two	
change:	separate course numbers. 5933 was selected as the course number to utilize based	
	on recommendations of the curriculum committee.	
Semesters		
Semesters		
previously		
previously		

Co-Listed Courses:		
Course Reviewer	sraper (01/08/18 1:48 pm): Changed to "Required for Majors" as reflected on new	
Comments	DC form.	r: 2265

Date Submitted: 10,	/31/17 11:06 am	
/iewing: MIN E	NG 6842 : Advanced Rock Mechanics	In Workflow
File: 103.1		1. RMINNUCL Chair
ast edit: 11/27/1	7 7:17 pm	2. CCC Secretary
 Changes proposed b		3. Engineering DSC
	GEOT-ME: Geotechnics ME	4. Pending CCC
Programs	<u></u>	Agenda post
referencing this		5. CCC Meeting
course		Agenda
Requested	Fall 2018 08/01/2014	6. Campus Curricula Committee Chair
Effective Change		7. FS Meeting
Date		Agenda
Department	Mining & Nuclear Engineering	8. Faculty Senate
Discipline	Mining Engineering (MIN ENG)	Chair
		9. Registrar
Course Number	6842	10. CAT entry
Title	Advanced Rock Mechanics	11. Peoplesoft
Abbreviated	Advanced Rock Mechanics	Approval Path
Course Title		1. 11/27/17 7:17 pr
Catalog	Advanced topics in static and dynamic rock mechanics; elasticity theory, failure	Braden lusk
Description	theories and fracture mechanics applied to rock; stress wave propagation and	(blusk): Approve
	dynamic elastic constants; rock mass classification methods for support design; pillar	for RMINNUCL
	design in coal and metal mines; introduction to numerical models.	Chair
Prerequisites	Min Eng 5823 4 823 or Civ Eng 3715.	2. 11/28/17 12:28
Field Trip		pm Brittany Barnell
Statement		Brittany Parnell (ershenb):
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	Approved for CC
Required for	No	Secretary
Majors		3. 01/08/18 1:48 pr
Elective for	No	sraper: Approved
Majors	NO TO THE PROPERTY OF THE PROP	for Engineering
		DSCC Chair 4. 01/24/18 9:22 ar
Justification for	pre-requisite change due to other course changes.	Brittany Parnell
change:		(ershenb):
Semesters		Approved for
previously		Pending CCC
offered as an experimental		Agenda post
course		
Co-Listed		
Courses:		
Course Reviewer		
Comments		

Date Submitted: 10/31/17 11:07 am In Workflow Viewing: MIN ENG 6843 : Dynamic Rock Mechanics ₩ 1. RMINNUCL Chair File: 369.1 2. CCC Secretary Last edit: 11/27/17 7:17 pm 3. Engineering DSCC Changes proposed by: cifarellit Chair 4. Pending CCC Fall 2018 08/01/2014 Requested Agenda post **Effective Change** 5. CCC Meeting Date Agenda Department Mining & Nuclear Engineering 6. Campus Curricula Discipline Mining Engineering (MIN ENG) Committee Chair 7. FS Meeting 6843 Course Number Agenda Title Dynamic Rock Mechanics IV 8. Faculty Senate Abbreviated Dynamic Rock Mechanics IV Chair Course Title 9. Registrar 10. CAT entry Catalog Advanced topics in dynamic rock mechanics. Stress ware propagation in the earth, 11. Peoplesoft Description dynamic elastic constants in isotropic and anisotropic rock, Hopkinson bar impact analysis, spallation and radial fracturing caused by stress pulses, shock ware Approval Path generation in rock by explosives, shock ware propagation and effects. 1. 11/27/17 7:17 pm Min Eng **5823** 4823 or Civ Eng 3715. Prerequisites Braden lusk Field Trip (blusk): Approved Statement for RMINNUCL Chair Credit Hours LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3 2. 11/28/17 1:00 pm Required for No **Brittany Parnell** Majors (ershenb): Approved for CCC Elective for Nο Majors Secretary 3. 01/08/18 1:48 pm Justification for There is no longer a rock mechanics three. course change from 4823 to 5823 sraper: Approved required pre-req change. change: for Engineering DSCC Chair Semesters 4. 01/24/18 9:25 am previously **Brittany Parnell** offered as an (ershenb): experimental Approved for course Pending CCC Co-Listed Agenda post Courses: Course Reviewer Comments

Kev: 369

MI ENG-BS: MINING ENGINEERING BS

In Workflow

- 1. RMINNUCL Chair (blusk@mst.edu)
- 2. CCC Secretary (ershenb@mst.edu)
- 3. Engineering DSCC Chair (sraper@mst.edu)
- 4. Pending CCC Agenda post (ershenb@mst.edu)
- 5. CCC Meeting Agenda (ershenb@mst.edu)
- 6. Campus Curricula Committee Chair (sraper@mst.edu)
- 7. FS Meeting Agenda (ershenb@mst.edu)
- 8. Faculty Senate Chair (sedighs@mst.edu)
- 9. Registrar (kristyg@mst.edu)
- 10. Kristy Giacomelli (kristyg@mst.edu)

Approval Path

- 1. Fri, 08 Dec 2017 04:31:48 GMT Braden lusk (blusk): Approved for RMINNUCL Chair
- Fri, 08 Dec 2017 16:08:00 GMT
 Brittany Parnell (ershenb): Approved for CCC Secretary
- 3. Mon, 08 Jan 2018 19:56:46 GMT sraper: Approved for Engineering DSCC Chair
- Tue, 23 Jan 2018 20:00:42 GMT Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

- 1. Apr 28, 2014 by Kwame Awuah-Offei (kabp3)
- 2. Jan 30, 2015 by Tina Alobaidan (cifarellit)
- 3. Jun 28, 2017 by Tina Alobaidan (cifarellit)

Date Submitted: Wed, 29 Nov 2017 20:49:38 GMT

Viewing: MI ENG-BS: Mining Engineering BS

File: 95.24

Last approved: Wed, 28 Jun 2017 15:13:50 GMT Last edit: Mon, 08 Jan 2018 19:56:43 GMT

Changes proposed by: cifarellit

Start Term

Fall 2018

Program Code

MI ENG-BS

Department

Mining & Nuclear Engineering

Title

Mining Engineering BS

Program Requirements and Description

Bachelor of Science Mining Engineering

Entering freshmen desiring to study Mining Engineering will be admitted to the Freshman Engineering Program. They will, however, be permitted, if they wish, to state a Mining Engineering preference, which will be used as a consideration for available freshman departmental scholarships. The focus of the Freshman Engineering program is on fundamental sciences and mathematics, enhanced advising and career counseling, with the goal of providing to the student the information necessary to make an informed decision regarding the choice of a major. In addition, students who state the Mining Engineering preference are required to complete Mining Engineering 2126 during the first or second semester on campus.

For the Bachelor of Science degree in Mining Engineering a minimum of 128 credit hours is required, although completion of an emphasis area may require up to 132 credits. These requirements are in addition to credit received for algebra, trigonometry, and basic ROTC courses. A student must maintain at least two grade points per credit hour for all courses taken in the student's major department, and an average of at least two grade points per credit hour must be maintained in Mining Engineering.

Each student's program of study must contain a minimum of 21 credit hours of course work in general education and must be chosen according to the following rules:

- 1. All students are required to take one American History course, two economics courses, one humanities course, ENGLISH 1120 and either ENGLISH 1160, ENGLISH 3560 or TCH COM 1600. The history course is to be selected from HISTORY 1200, HISTORY 1300, HISTORY 1310, or POL SCI 1200. The economics courses must be either ECON 1100 or ECON 1200, and ECON 3512. The humanities course must meet requirements as specified under "Engineering Degree Requirements" published in the current undergraduate catalog.
- 2. The remaining three credit hours must meet requirements as specified under "Engineering Degree Requirements" published in the current undergraduate catalog. Foreign language courses can be considered to be one of these courses. (Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the 4000 or 5000 level.)
- 3. Special topics, special problems courses and honors seminars are allowed only by petition to and approval by the student's department chairman.

The Mining Engineering program at Missouri S&T is characterized by its focus on the scientific basics of engineering and its innovative application; indeed, the underlying theme of this educational program is the application of the scientific basics to engineering practice through attention to problems and needs of the public. The necessary interrelations among the various topics, the engineering disciplines, and the other professions as they naturally come together in the solution of real world problems are emphasized as research, analysis, synthesis, and design are presented and discussed through classroom and laboratory instruction.

Freshman Year		
First Semester	Credits Second Semester	Credits
MATH 1214	4 MATH 1215	4
CHEM 1310	4 PHYSICS 1135	4
CHEM 1319	1 MECH ENG 1720	3
CHEM 1100	1 MIN ENG 1912	2
MIN ENG 2126	1 GEO ENG 1150	3
FR ENG 1100	1	
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3	
ENGLISH 1120	3	
	18	16
Sophomore Year		
•		
First Semester	Credits Second Semester	Credits
	Credits Second Semester 2 MIN ENG 2412	Credits 3
First Semester		
First Semester MIN ENG 2925	2 MIN ENG 2412	3
First Semester MIN ENG 2925 MIN ENG 3912	2 MIN ENG 2412 3 MATH 3304	3
First Semester MIN ENG 2925 MIN ENG 3912 MATH 2222	2 MIN ENG 2412 3 MATH 3304 4 MECH ENG 2527	3 3 3
First Semester MIN ENG 2925 MIN ENG 3912 MATH 2222 MIN ENG 3913	2 MIN ENG 2412 3 MATH 3304 4 MECH ENG 2527 3 MECH ENG 2350	3 3 3 2
First Semester MIN ENG 2925 MIN ENG 3912 MATH 2222 MIN ENG 3913 CIV ENG 2200	2 MIN ENG 2412 3 MATH 3304 4 MECH ENG 2527 3 MECH ENG 2350 3 PHYSICS 2135	3 3 3 2
First Semester MIN ENG 2925 MIN ENG 3912 MATH 2222 MIN ENG 3913 CIV ENG 2200	2 MIN ENG 2412 3 MATH 3304 4 MECH ENG 2527 3 MECH ENG 2350 3 PHYSICS 2135	3 3 3 2 4
First Semester MIN ENG 2925 MIN ENG 3912 MATH 2222 MIN ENG 3913 CIV ENG 2200 ECON 1100 or 1200	2 MIN ENG 2412 3 MATH 3304 4 MECH ENG 2527 3 MECH ENG 2350 3 PHYSICS 2135	3 3 3 2 4
First Semester MIN ENG 2925 MIN ENG 3912 MATH 2222 MIN ENG 3913 CIV ENG 2200 ECON 1100 or 1200 Junior Year	2 MIN ENG 2412 3 MATH 3304 4 MECH ENG 2527 3 MECH ENG 2350 3 PHYSICS 2135 3	3 3 3 2 4

3 MIN ENG 5823	3
3 MIN ENG 5933	3
3 ENGLISH 1600, or 1160, or 3560	3
3	
18	15
Credits Second Semester	Credits
3 (MIN ENG 5742)	3
3 MIN ENG 4097	4
3 Technical Elective 1,2,3,4,5,6	3
3 H/SS Elective	3
<u>3</u>	
15	13
	3 MIN ENG 5933 3 ENGLISH 1600, or 1160, or 3560 3 18 Credits Second Semester 3 MIN ENG 5742 3 MIN ENG 4097 3 Technical Elective 1,2,3,4,5,6 3 H/SS Elective

Total Credits: 128

Senior Year

Junior and Senior Years

- Explosives Engineering Emphasis: MIN ENG 5622 (Blasting Tech) and MIN ENG 5823 (Rock Mechanics) or MIN ENG 5922 (Tunneling/ Construction) have to be taken as Technical Electives.
- 2 Quarrying Emphasis: Two of CIV ENG 3116 (Construction Materials); MIN ENG 5212 (Advanced Aggregate and Quarrying); and MIN ENG 5412 (Aggregate Materials) have to be taken as Technical Electives.
- 3 Coal Emphasis: Two of MIN ENG 5322 (Coal Mine Development and Production), MIN ENG 4414 (Mine Plant Management) or an approved substitute course must be taken as Technical Electives.
- Mining and the Environment Emphasis: GEO ENG 5235 (Environmental Geological Engineering) and GEO ENG 5233 (Risk Assessment in Environmental Studies), or approved substitute courses have to be taken as Technical Electives.
- Mining Health and Safety Emphasis: MIN ENG 3002 (Mine Rescue), ENG MGT 4330 (Human Factors), or other approved substitute courses must be taken as Technical Electives.
- 6 Sustainable Development Emphasis: POL SCI 3310 (Public Policy Analysis), ECON 4440 (Environmental and Natural Resource Economics), or other approved substitute courses must be taken as Technical Electives.

Graduating Mining Engineers Examination

Mining engineering students must complete the Fundamentals of Engineering Examination prior to graduation as a senior assessment requirement. A passing grade is not required to earn a B.S. degree in mining engineering; however it is the first step toward becoming a registered professional engineer. This requirement is part of the Missouri S&T assessment process.

Mining Health and Safety Emphasis

Julioi and Sellioi Tears		
MIN ENG 3002	Mine Rescue (or approved substitute course in lieu of Technical Elective.)	3
ENG MGT 4330	Human Factors (or approved substitute course in lieu of Technical Elective.)	3

Sustainable Development Emphasis

Junior and Senior Years		
POL SCI 3300	Principles Of Public Policy (or approved substitute course in lieu of Technical Elective.)	3
ECON 4440	Environmental And Natural Resource Economics (or approved substitute course in lieu of Technical Elective.)	3

Quarrying Engineering Emphasis

Evalorivos Enginoaring Emphasis				
MIN ENG 5212	Advanced Aggregates and Quarrying	3		
CIV ENG 3116	Construction Materials, Properties And Testing (in lieu of Technical Elective.)	3		

Explosives Engineering Emphasis

01	ooco ono of the	 4 (4)	CT 1 1 1	-1	

EXP ENG 5922	Advanced Tunneling & Underground Construction Techniques
GEO ENG 5471	Rock Engineering
In lieu of Technical Elective in Senior Year:	

Coal Emphasis

Junior and Senior Years

MIN ENG 5322	Advanced Coal Mining Methods	3
MIN ENG 4414	Mine Plant Management (or approved substitute course in lieu of Technical Elective.)	2

Mining and the Environment Emphasis

Junior and Senior Years		
ENV ENG 5640	Environmental Law And Regulations	3
GEO ENG 5233	Risk Assessment In Environmental Studies (or approved substitute course in lieu of Technical Elective)	3

Justification for request

Multiple Courses in curriculum were being offered to graduate and undergraduate students under two separate course numbers at a 4000 level and a 5000 level. The 5000 level course numbers were chosen to be utilized and names were changed to remove the word advanced from description based on recommendations of the curriculum committee. 4000 levels will be deleted.

Supporting Documents

Course Reviewer Comments

sraper (Mon, 08 Jan 2018 19:56:43 GMT): Modified statements for Humanities and Social science to reflect current language. Removed signed FE release requirements.

Key: 95