



**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:

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
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Course Change Request

Date Submitted: 10/31/17 12:55 pm

Viewing: **EXP ENG 5922 : ~~Advanced~~ Tunneling & Underground Construction**

Techniques

File: 4382.2

Last approved: 09/16/17 3:21 am

Last edit: 11/28/17 11:21 am

Changes proposed by: cifarellit

Catalog Pages referencing this course	Explosives Engineering	In Workflow <ol style="list-style-type: none"> 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
Programs referencing this course	MI ENG-BS: Mining Engineering BS	
Other Courses referencing this course	<u>In The Catalog Description:</u> MIN ENG 5922 : Advanced Tunneling & Underground Construction Techniques	
Requested Effective Change Date	Fall 2018 2017	Approval Path <ol style="list-style-type: none"> 1. 11/27/17 7:12 pm Braden lusk (blusk): Approved for RMINNUCL Chair 2. 11/28/17 10:15 am Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:36 pm sraper: Approved for Engineering DSCC Chair 4. 01/23/18 10:44 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
Department	Mining & Nuclear Engineering	
Discipline	Explosives Engineering (EXP ENG)	
Course Number	5922	
Title	Advanced Tunneling & Underground Construction Techniques	
Abbreviated Course Title	Tun and Undergrnd Const Adv Tun&Undergrnd Const	
Catalog Description	Mechanical Advanced topics in mechanical and conventional excavation techniques in underground tunneling and construction. Topics include tunneling layouts design, equipment and performance modeling, ground control systems including support, drainage, and structural integrity. Construction specifications, advance rate and contractual and cost estimation.	History <ol style="list-style-type: none"> 1. Sep 16, 2017 by Kyle Perry (kapqh4)
Prerequisites	Consent of instructor . Instructor	
Field Trip Statement		
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	
Required for Majors	No	
Elective for Majors	Yes	

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 Courses: MIN ENG 5922 - Advanced Tunneling & Underground Construction Techniques

Course Reviewer Comments

Key: 4382

[Preview Bridge](#)

Course Change Request

Date Submitted: 12/16/17 1:21 pm

Viewing: **GEO ENG 1150 : Physical and Environmental Geology**

File: 1173.15

Last approved: 05/24/16 4:57 am

Last edit: 01/23/18 1:44 pm

Changes proposed by: grotekr

Catalog Pages referencing this course	Freshman Engineering Program	<p>In Workflow</p> <ol style="list-style-type: none"> 1. RGEOENG 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
Programs referencing this course	<p>CV ENG-BS: Civil Engineering BS EV ENG-BS: Environmental Engineering BS GE ENG-MI: Geological Engineering Minor GEOL-MI: Geology Minor PE ENG-BS: Petroleum Engineering BS GE ENG-BS: Geological Engineering BS MI ENG-BS: Mining Engineering BS</p>	
Other Courses referencing this course	<p><u>In The Catalog Description:</u> GEOLOGY 1110 : Physical And Environmental Geology</p> <p><u>In The Prerequisites:</u> CIV ENG 3116 : Construction Materials, Properties And Testing CIV ENG 3715 : Fundamentals of Geotechnical Engineering CIV ENG 6760 : Inca Civilization Geotechnical Engineering Practices GEO ENG 2536 : Basic Weather GEO ENG 3175 : Geomorphology And Terrain Analysis GEO ENG 3249 : Fundamentals Of Computer Applications In Geological Engineering GEO ENG 5331 : Subsurface Hydrology GEO ENG 5443 : Subsurface Exploration GEO ENG 5575 : Aggregates And Quarrying GEO ENG 6407 : Inca Civilization Geotechnical Engineering Practices GEO ENG 6782 : Surface Waves (MASW) and Ground Penetrating Radar (GPR) GEOLOGY 1120 : Evolution Of The Earth GEOLOGY 2611 : Physical Mineralogy And Petrology GEOLOGY 4411 : Hydrogeology GEOLOGY 4431 : Methods Of Karst Hydrogeology GEOLOGY 4711 : Paleoclimatology and Paleoecology GEOLOGY 4831 : Computational Geology GEOLOGY 4841 : Geological Field Studies GEOLOGY 5311 : Depositional Systems GEOLOGY 5513 : Petroleum Geology GEOPHYS 2211 : Geophysical Imaging GEOPHYS 4231 : Seismic Interpretation GEOPHYS 5202 : Exploration and Development Seismology MIN ENG 3913 : Mineral Identification and Exploration</p>	
Approval Path		<ol style="list-style-type: none"> 1. 12/17/17 8:51 am David Borrok (borrokd): Approved for RGEOENG Chair 2. 12/18/17 8:59 am Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:36 pm sraper: Approved for Engineering DSCC Chair 4. 01/23/18 1:44 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
History		<ol style="list-style-type: none"> 1. Feb 16, 2015 by gertschl (1173.1) 2. May 24, 2016 by kleb6b (1173.6)

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 Course Title	Physical and & Environ Geo
Catalog Description	Materials, structure, and surface features of the Earth and planets are studied in the context of the processes that continuously transform the Earth and affect management of Earth resources, hazards, engineering problems, and environmental challenges.
Prerequisites	Entrance requirements.
Field Trip Statement	
Credit Hours	LEC: 2 3 LAB: 1 0 IND: 0 RSD: 0 Total: 3
Required for Majors	Yes
Elective for Majors	No
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.
Semesters previously offered as an experimental course	
Co-Listed Courses:	GEOLOGY 1110 - Physical And Environmental Geology
Course Reviewer Comments	

Key: 1173

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 10:04 am

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

Programs [MI ENG-BS: Mining Engineering BS](#)
referencing this course

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 Engrs
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

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

Required for Majors **Yes** ~~No~~

Elective for Majors No

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. 11/27/17 7:13 pm
Braden lusk

(blusk): Approved for RMINNUCL Chair

2. 11/28/17 10:17 am

Brittany Parnell (ershenb):

Approved for CCC Secretary

3. 01/08/18 1:36 pm

srafer: Approved for Engineering DSCC Chair

4. 01/23/18 2:03 pm

Brittany Parnell (ershenb):

Approved for 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.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

History

1. Jun 26, 2017 by cifarellit (1534.1)

Course Reviewer **sraper (11/29/17 9:01 am)**: changed to "required for majors".

Comments

Key: 1534

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 12/07/17 4:40 pm

Viewing: **MIN ENG 3812 : Statics And Mechanics Of Rock Materials**

File: 2037.1

Last edit: 12/07/17 4:40 pm

Changes proposed by: cifarellit

In Workflow

1. **RMINNUCL Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting**

Programs referencing this course [GEOL-MI: Geology Minor](#)

Other Courses referencing this course In The Prerequisites:
[CIV ENG 3116 : Construction Materials, Properties And Testing](#)

Agenda

6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Requested Effective Change Date **Fall 2018 ~~08/01/2014~~**

Department Mining & Nuclear Engineering
 Discipline Mining Engineering (MIN ENG)
 Course Number 3812
 Title Statics And Mechanics Of Rock Materials
 Abbreviated Course Title Stat & Mech Of Rock Mtrl

Approval Path

1. 12/07/17 10:31 pm
Braden lusk (blusk): Approved for RMINNUCL Chair
2. 12/08/17 10:08 am
Brittany Parnell (ershenb): Approved for CCC Secretary
3. 01/08/18 1:38 pm
srapr: Approved for Engineering DSCC Chair
4. 01/23/18 2:06 pm
Brittany Parnell (ershenb): Approved for

Catalog Description
 Application of the principles of mechanics to engineering problems of equilibrium, strength, and stiffness concerning rock materials and mine support structures. This course extends the study of statics to rock materials in mines and covers rock-related and support structure-related mechanics of materials. The course is complemented by rock mechanics laboratory.

Prerequisites
 MECH ENG 2340; or IDE 50 and 150.

Field Trip Statement

Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0	Total: 3
Required for Majors	No				
Elective for Majors	No				

Pending CCC
Agenda post

Justification for change: course no longer being taught. multiple rock mech courses were being offered to graduate and undergraduate students under two separate course numbers. Other numbers were selected as the course numbers to utilize based on recommendations of the curriculum committee.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 2037

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 9:28 am

Viewing: **MIN ENG 3913 : Mineral Identification and Exploration**

File: 41.7

Last approved: 06/26/17 3:14 am

Last edit: 11/28/17 10:22 am

Changes proposed by: cifarellit

<p>Programs referencing this course</p> <p>GEOL-MI: Geology Minor MI ENG-MI: Mining Engineering Minor GE ENG-BS: Geological Engineering BS MI ENG-BS: Mining Engineering BS</p> <p>Other Courses referencing this course</p> <p><u>In The Prerequisites:</u> MIN ENG 4932 : Underground Mining Methods And Equipment</p>	<p>In Workflow</p> <ol style="list-style-type: none"> 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
<p>Requested Effective Change Date</p> <p>Fall 2018 2017</p> <p>Department</p> <p>Mining & Nuclear Engineering</p> <p>Discipline</p> <p>Mining Engineering (MIN ENG)</p> <p>Course Number</p> <p>3913</p> <p>Title</p> <p>Mineral Identification and Exploration</p> <p>Abbreviated Course Title</p> <p>Mineral ID and Explor & Exploration</p>	<p>Approval Path</p> <ol style="list-style-type: none"> 1. 11/27/17 7:13 pm Braden lusk (blusk): Approved for RMINNUCL Chair 2. 11/28/17 10:22 am Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:39 pm sraper: Approved for Engineering DSCC Chair 4. 01/23/18 2:08 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
<p>Catalog Description</p> <p>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. Rock Identification.</p> <p>Prerequisites</p> <p>Either both Chem 1310 and Chem 1319 or Chem 1351; either Geo Eng 1150 or Geology 1110.</p> <p>Field Trip Statement</p> <p>Credit Hours</p> <p>LEC: 2 3 LAB: 1 0 IND: 0 RSD: 0 Total: 3</p> <p>Required for Majors</p> <p>Yes</p> <p>Elective for Majors</p> <p>No</p>	<p>History</p> <ol style="list-style-type: none"> 1. Apr 25, 2014 by lahne (41.1) 2. Jun 26, 2017 by cifarellit (41.3)
<p>Justification for change:</p> <p>ABET requirements and course mapping</p> <p>Semesters previously offered as an experimental course</p>	

Co-Listed

Courses:

Course Reviewer

Comments

Key: 41

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 11/29/17 3:01 pm

Viewing: **MIN ENG 4113 : Mine Atmosphere Control**

File: 2260.8

Last approved: 06/26/17 3:15 am

Last edit: 11/29/17 3:01 pm

Changes proposed by: cifarellit

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

Other Courses referencing this course
In The Prerequisites:
[MIN ENG 6133 : Mine Atmospheric Control II](#)

Requested Effective Change Date
Fall ~~Spring~~-2018

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

Course Number: 4113
 Title: Mine Atmosphere Control
 Abbreviated Course Title: Mine Atmosphere Control

Approval Path

1. 12/07/17 10:32 pm
 Braden lusk (blusk): Approved for RMINNUCL Chair
2. 12/08/17 10:09 am
 Brittany Parnell (ershenb): Approved for CCC Secretary
3. 01/08/18 1:36 pm
 sraper: Approved for Engineering DSCC Chair
4. 01/23/18 2:12 pm
 Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Catalog Description: Fundamentals of mine ventilation, including the principles of airflow, control of gases, dust, and temperature, methane drainage, mine fans, network theory, computer network simulation, and economics of airflow, with emphasis on analysis, systems design and practical application.

Prerequisites: Mech Eng 2527; Civ Eng 3330 or Nuc Eng 3221.

Field Trip Statement

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

Required for Majors: Yes

Elective for Majors: No

Justification for change: Course was being offered to graduate and undergraduate students under two separate course numbers. 5113 was selected as the course number to utilize based on recommendations of the curriculum committee.

Semesters previously offered as an experimental course

History

1. Feb 9, 2015 by cifarellit (2260.1)

Co-Listed

Courses:

2. Jun 26, 2017 by
cifarellit (2260.5)

Course Reviewer

Comments

Key: 2260

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 11:19 am

Viewing: **MIN ENG 4122 : Advanced Mine Health and Safety**

File: 677.1

Last edit: 11/29/17 9:21 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 4122
 Title Advanced Mine Health and Safety
 Abbreviated Adv Mine Health and **Saf**
 Course Title **Safety**

Catalog

Description

A detailed study of health and safety principles, practices, analyses, regulations, **risks issues** and **hazards recognition, mitigation and control, and disaster prevention technology** in the mining industry.

Prerequisites

Min Eng 2126.

Field Trip

Statement

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

Required for
Majors No

Elective for
Majors **Yes** ~~No~~

Justification for
change:

Changing catalog description to match actual course content.

Semesters

previously
offered as an

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. 11/27/17 7:14 pm
Braden lusk
(blusk): Approved for RMINNUCL Chair
2. 11/28/17 10:29 am
Brittany Parnell (ershenb): Approved for CCC Secretary
3. 01/08/18 1:36 pm
sraper: Approved for Engineering DSCC Chair
4. 01/23/18 2:14 pm
Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

experimental
course

Co-Listed
Courses:

Course Reviewer **sraper (11/29/17 9:21 am):** checked "elective for majors"
Comments

Key: 677

[Preview Bridge](#)

Course Change Request

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 Course Title	Adv Aggregate & Quarrying

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

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 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
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Required for Majors	No
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Elective for Majors	No
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Justification for

change:

Moved field trip statement to course description to match PeopleSoft.

Course was being offered to graduate and undergraduate students under two

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): Approved for CCC Secretary
3. 01/08/18 1:49 pm
srafer: 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 Mining Faculty and curriculum committee.

Pending CCC
Agenda post

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 600

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 11/29/17 3:05 pm

Viewing: **MIN ENG 4322 : Coal Mine Development And Production**

File: 906.2

Last approved: 04/28/14 4:00 am

Last edit: 11/29/17 3:05 pm

Changes proposed by: cifarellit

Other Courses referencing this course	In The Prerequisites: MIN ENG 5322 : Advanced Coal Mining Methods	<p>In Workflow</p> <ol style="list-style-type: none"> 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
Requested Effective Change Date	Fall 2018 01/13/2015	
Department	Mining & Nuclear Engineering	
Discipline	Mining Engineering (MIN ENG)	
Course Number	4322	
Title	Coal Mine Development And Production	
Abbreviated Course Title	Coal Min Devlp & Product	
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.	
Prerequisites	Accompanied or preceded by Min Eng 4912.	
Field Trip Statement		
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	
Required for Majors	No	
Elective for Majors	No	
Justification for change:	Additional course that is not being taught.	<p>Approval Path</p> <ol style="list-style-type: none"> 1. 12/07/17 10:32 pm Braden lusk (blusk): Approved for RMINNUCL Chair 2. 12/08/17 10:11 am Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:49 pm srafer: Approved for Engineering DSCC Chair 4. 01/23/18 2:18 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
Semesters previously offered as an experimental course		
		<p>History</p> <ol style="list-style-type: none"> 1. Apr 28, 2014 by lahne (906.1)

Co-Listed

Courses:

Course Reviewer

Comments

Key: 906

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 12/07/17 4:37 pm

Viewing: **MIN ENG 4412 : Aggregate Materials Characterization, Sizing and Dimension Stone Characterization**

File: 431.1

Last edit: 12/07/17 4:37 pm

Changes proposed by: cifarellit

Programs referencing this course	<u>MNRL PR-MI: Mineral Process Eng Minor</u>	In Workflow <ol style="list-style-type: none"> 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
Requested Effective Change Date	Fall 2018 08/01/2014	
Department	Mining & Nuclear Engineering	
Discipline	Mining Engineering (MIN ENG)	
Course Number	4412	
Title	Aggregate Materials Characterization , Sizing and Dimension Stone Characterization	Approval Path <ol style="list-style-type: none"> 1. 12/07/17 10:32 pm Braden lusk (blusk): Approved for RMINNUCL Chair 2. 12/08/17 10:11 am Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:50 pm srafer: Approved for Engineering DSCC Chair 4. 01/23/18 2:21 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
Abbreviated Course Title	Aggregate Materials	
Catalog Description	Geological formation of aggregates; aggregate properties and their measurements; aggregates for specific end-user applications; specifications and standards; processing (crushing, screening, classification, and washing); plant design and flow sheet analysis; dimension stone processing ; quality control and assurance. Field Trip Required: to enhance the classroom instructions and to expose the students to industrial practices of safe production.	
Prerequisites	Min Eng 2412 . 3412 .	
Field Trip Statement		
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	
Required for Majors	No	
Elective for Majors	Yes No	
Justification for change:	Industry needs/approval and National Stone, Sand and Gravel Association (NSSGA) 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.

Key: 431

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 11/29/17 3:08 pm

Viewing: **MIN ENG 4423 : Mineral Processing I (Flotation and Hydrometallurgy)**

File: 81.1

Last edit: 11/29/17 3:08 pm

Changes proposed by: cifarellit

In Workflow

1. **RMINNUCL Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting**

Programs [MNRL PR-MI: Mineral Process Eng Minor](#)
referencing this course

Agenda

6. Campus Curricula Committee Chair
7. FS Meeting

Requested **Fall 2018** ~~08/01/2014~~
Effective Change Date

Agenda

8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

Course Number 4423

Title Mineral Processing I (Flotation and Hydrometallurgy)

Abbreviated Course Title Min Proc I (Flotat & Hydromet)

Approval Path

1. 12/07/17 10:32 pm
Braden lusk (blusk): Approved for RMINNUCL Chair
2. 12/08/17 10:12 am
Brittany Parnell (ershenb): Approved for CCC Secretary
3. 01/08/18 1:50 pm
srafer: Approved for Engineering DSCC Chair
4. 01/23/18 2:24 pm
Brittany Parnell (ershenb): Approved for

Catalog Description

Forth flotation including mineral surfaces, double layer theory, zeta potential, hydrophobicity, adsorption, collectors, frothers, modulation, kinetics, and sulphide and acid flotation systems. Hydrometallurgy including leaching, ion exchange and liquid/liquid extraction.

Prerequisites

Min Eng 3412.

Field Trip Statement

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

Required for Majors No

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		

Key: 81

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

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

Viewing: **MIN ENG 4424 : Mineral Processing II (Mechanics and Design)**

File: 1698.1

Last edit: 11/29/17 3:09 pm

Changes proposed by: cifarellit

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 10:12 am
Brittany Parnell (ershenb): Approved for CCC Secretary
3. 01/08/18 1:50 pm
srafer: Approved for Engineering DSCC Chair
4. 01/23/18 2:25 pm
Brittany Parnell (ershenb): Approved for

Programs referencing this course	<u>MNRL PR-MI: Mineral Process Eng Minor</u>
Other Courses referencing this course	<u>In The Catalog Description:</u> <u>MET ENG 5270 : Mineral Processing II (Mechanics and Design)</u>
Requested Effective Change Date	Fall 2018 08/01/2014
Department	Mining & Nuclear Engineering
Discipline	Mining Engineering (MIN ENG)
Course Number	4424
Title	Mineral Processing II (Mechanics and Design)
Abbreviated Course Title	Min Proc II - (Mechs & Dsgn)
Catalog Description	Mineral particle mechanics of comminution, sizing, classification, concentration, filtering and thickening. Mill and equipment selection and design including flowsheet, development and plant assessment.
Prerequisites	Min Eng 3412.
Field Trip Statement	
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3

Required for
Majors No

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: MET ENG 5270 - Mineral Processing II (Mechanics and Design)

Course Reviewer
Comments

Key: 1698

[Preview Bridge](#)

Course Change Request

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

<p>Programs referencing this course</p> <p>Other Courses referencing this course</p>	<p><u>GEOL-MI: Geology Minor</u></p> <p>In The Prerequisites: _____ <u>MIN ENG 4096 : Computer Aided Mine Design</u></p>	<p>In Workflow</p> <ol style="list-style-type: none"> 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
<p>Requested Effective Change Date</p> <p>Department</p> <p>Discipline</p> <p>Course Number</p> <p>Title</p> <p>Abbreviated Course Title</p>	<p>Fall 2018 2017</p> <p>Mining & Nuclear Engineering</p> <p>Mining Engineering (MIN ENG)</p> <p>4522</p> <p>Ore Reserve Analysis And Geostatistics</p> <p>Ore Resrve Anlys&Geostat</p>	<p>Approval Path</p> <ol style="list-style-type: none"> 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 srafer: Approved for Engineering DSCC Chair 4. 01/23/18 2:29 pm Brittany Parnell (ershenb): Approved for
<p>Catalog Description</p> <p>Prerequisites</p> <p>Field Trip Statement</p>	<p>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.</p> <p>Stat 3113 or Stat 3115.</p>	
<p>Credit Hours</p>	<p>LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3</p>	

Required for
Majors Yes

Pending CCC
Agenda post

Elective for
Majors No

History

1. Jun 26, 2017 by
cifarellit (1726.1)

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.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 1726

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 11/29/17 3:10 pm

Viewing: **MIN ENG 4742 : Environmental Aspects Of Mining**

File: 529.5

Last approved: 02/09/15 3:18 am

Last edit: 11/29/17 3:10 pm

Changes proposed by: cifarellit

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
srafer: Approved for Engineering DSCC Chair
4. 01/23/18 2:37 pm
Brittany Parnell (ershenb): Approved for

Other Courses referencing this course	<p><u>In The Catalog Description:</u></p> <p>GEO ENG 4276 : Environmental Aspects Of Mining</p> <p><u>In The Prerequisites:</u></p> <p>MIN ENG 6522 : Mining Property Feasibility Studies And Evaluation Procedure</p> <p>MIN ENG 6712 : Managing Social and Environmental Risks in Mining (Intro to Responsible Mining)</p> <p>MIN ENG 6735 : Sustainability In Mining</p>
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Requested Effective Change Date	Fall 2018 2015
Department	Mining & Nuclear Engineering
Discipline	Mining Engineering (MIN ENG)
Course Number	4742
Title	Environmental Aspects Of Mining
Abbreviated Course Title	Env Aspects Of Mining

Catalog Description	<p>Permitting: the legal environment of reclamation and environmental impact assessment; post-mining land-use selection and mine planning for optimum reclamation of all mines: metal, nonmetal, and coal; unit operations of reclamation: drainage, backfill, soil replacement, revegetation, maintenance, etc.</p>
Prerequisites	<p>Co-requisites: MIN ENG 4933 or GEO ENG 5441 or ENV ENG 5619.</p>
Field Trip Statement	

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	Pending CCC Agenda post
Required for Majors	Yes					
Elective for Majors	No					History 1. Feb 9, 2015 by kabp3 (529.1)
Justification for change:	Course was being offered to graduate and undergraduate students under two 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 Courses:	GEO ENG 4276 - Environmental Aspects Of Mining					
Course Reviewer Comments						

Key: 529

[Preview Bridge](#)

Course Change Request

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

Programs referencing this course	GEOL-MI: Geology Minor GE ENG-BS: Geological Engineering BS	In Workflow <ol style="list-style-type: none"> 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
Other Courses referencing this course	In The Prerequisites: _____ GEO ENG 6477 : Discontinuous Rock MIN ENG 4922 : Tunneling & Underground Construction Techniques 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	
Requested Effective Change Date	Fall 2018 2015	
Department	Mining & Nuclear Engineering	
Discipline	Mining Engineering (MIN ENG)	
Course Number	4823	Approval Path <ol style="list-style-type: none"> 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 srafer: Approved for Engineering DSCC Chair 4. 01/23/18 2:39 pm Brittany Parnell (ershenb): Approved for
Title	Rock Mechanics	
Abbreviated Course Title	Rock Mechanics	
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		

Physics 2135; Civ Eng 2210; and Geology 3310.

Pending CCC
Agenda post

Field Trip
Statement

Field trip required.

History

1. Feb 9, 2015 by
cifarellit (1823.1)

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

Required for
Majors Yes

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

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 11/29/17 3:01 pm

Viewing: **MIN ENG 4912 : Mine Power And Drainage**

File: 1145.8

Last approved: 06/26/17 3:15 am

Last edit: 11/29/17 3:01 pm

Changes proposed by: cifarellit

In Workflow

1. **RMINNUCL Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**

Other Courses referencing this course In The Prerequisites:
[MIN ENG 4322 : Coal Mine Development And Production](#)

6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Requested Effective Change Date: **Fall** ~~Spring~~-2018
 Department: Mining & Nuclear Engineering
 Discipline: Mining Engineering (MIN ENG)
 Course Number: 4912
 Title: Mine Power And Drainage
 Abbreviated Course Title: Mine Power And Drainage

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
srafer: Approved for Engineering DSCC Chair
4. 01/23/18 2:43 pm
Brittany Parnell (ershenb): Approved for

Catalog Description: Engineering principles of mine power distribution and application and mine dewatering. Basics of electrical circuits, AC/DC power, transformers, electric meters, power distribution, power management. Hydraulic power systems. Compressed air in mines. Mine dewatering. Controlling water inflow. Dewatering wells. Water pumping and pumping systems.

Prerequisites: Mech Eng 2527; Civ Eng 3330 or Nuc Eng 3221.

Field Trip Statement: Field trip required.

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

Required for Majors: Yes

Elective for Majors	No	Pending CCC Agenda post
<p>Justification for change: Course was being offered to graduate and undergraduate students under two separate course numbers. 5912 was selected as the course number to utilize based on recommendations of the curriculum committee.</p> <p>Semesters previously offered as an experimental course</p> <p>Co-Listed Courses:</p>		<p>History</p> <ol style="list-style-type: none">1. Feb 9, 2015 by cifarellit (1145.1)2. Jun 26, 2017 by cifarellit (1145.4)
Course Reviewer Comments		

Key: 1145

[Preview Bridge](#)

Course Change Request

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

<p>Programs referencing this course</p> <p>Other Courses referencing this course</p>	<p><u>MI ENG-MI: Mining Engineering Minor</u></p> <p>In The Prerequisites: _____</p> <p><u>MIN ENG 4096 : Computer Aided Mine Design</u></p> <p><u>MIN ENG 4922 : Tunneling & Underground Construction Techniques</u></p> <p><u>MIN ENG 6932 : Advanced Mining Systems</u></p> <p><u>MIN ENG 6935 : Underground Mine Design</u></p>	<p>In Workflow</p> <ol style="list-style-type: none"> 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
<p>Requested Effective Change Date</p> <p>Department</p> <p>Discipline</p> <p>Course Number</p> <p>Title</p> <p>Abbreviated Course Title</p>	<p>Fall 2017 2018</p> <p>Mining & Nuclear Engineering</p> <p>Mining Engineering (MIN ENG)</p> <p>4932</p> <p>Underground Mining Methods And Equipment</p> <p>Ungrnd Min Meth & Equip</p>	<p>Approval Path</p> <ol style="list-style-type: none"> 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
<p>Catalog Description</p> <p>Prerequisites</p>	<p>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.</p> <p>Preceded or accompanied by Min Eng 3913.</p>	<ol style="list-style-type: none"> 3. 01/08/18 1:50 pm srafer: Approved for Engineering DSCC Chair 4. 01/23/18 2:45 pm Brittany Parnell (ershenb): Approved for

Field Trip
Statement
Field Trip Required.

Pending CCC
Agenda post

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

History

Required for
Majors Yes

1. Jun 26, 2017 by
cifarellit (1524.1)

Elective for
Majors No

Justification for
change: 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.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 1524

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 12/07/17 4:39 pm

Viewing: **MIN ENG 4933 : Surface Mining Methods And Equipment**

File: 682.4

Last approved: 06/26/17 3:14 am

Last edit: 12/22/17 9:23 am

Changes proposed by: cifarellit

In Workflow

1. **RMINNUCL Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**

Programs referencing this course [MI ENG-MI: Mining Engineering Minor](#)

Other Courses referencing this course
In The Prerequisites:
[GEO ENG 4276 : Environmental Aspects Of Mining](#)
[MIN ENG 4096 : Computer Aided Mine Design](#)
[MIN ENG 4742 : Environmental Aspects Of Mining](#)
[MIN ENG 5933 : Advanced Surface Mining Methods](#)
[MIN ENG 6932 : Advanced Mining Systems](#)
[MIN ENG 6936 : Surface Mine Design](#)

6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Approval Path

Requested Effective Change Date: Fall ~~2018~~ 2017

Department: Mining & Nuclear Engineering

Discipline: Mining Engineering (MIN ENG)

Course Number: 4933

Title: Surface Mining Methods And Equipment

Abbreviated Course Title: Surface Min Mth & Equip

1. 11/27/17 7:14 pm
Braden lusk (blusk): Approved for RMINNUCL Chair
2. 11/28/17 10:30 am
Brittany Parnell (ershenb): Approved for CCC Secretary
3. 11/30/17 2:02 pm
sraper: Rollback to CCC Secretary for Engineering DSCC Chair
4. 11/30/17 2:30 pm
Brittany Parnell (ershenb):

Catalog Description
 Principles of planning, constructing, and operating economically viable surface mines. Cost effective mining methods: placer mining, strip mining, open pit mining, quarrying. Selection of equipment for surface mining operations. Optimization of mine performance.

Prerequisites

<p>Min Eng 3912; Min Eng 3512. 3512; preceded or accompanied by Min Eng 4823.</p> <p>Field Trip Statement Field trip required.</p> <p>Credit Hours LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3</p> <p>Required for Yes Majors</p> <p>Elective for No Majors</p>	<p>Rollback to Initiator</p> <p>5. 12/07/17 10:32 pm Braden lusk (blusk): Approved for RMINNUCL Chair</p> <p>6. 12/08/17 10:21 am Brittany Parnell</p>
<p>Justification for change: New curriculum implementation. Course was being offered to graduate and undergraduate students under two separate course numbers. 5933 was selected as the course number to utilize based on recommendations of the curriculum committee.</p> <p>Semesters previously offered as an experimental course</p> <p>Co-Listed Courses:</p>	<p>(ershenb): Approved for CCC Secretary</p> <p>7. 12/22/17 9:23 am sraper: Rollback to CCC Secretary for Engineering DSCC Chair</p> <p>8. 12/22/17 9:48 am Brittany Parnell (ershenb): Approved for CCC Secretary</p> <p>9. 01/08/18 1:39 pm sraper: Approved for Engineering DSCC Chair</p>
<p>Course Reviewer Comments</p> <p>sraper (11/30/17 2:02 pm): Rollback: Wrong form submitted</p> <p>ershenb (11/30/17 2:30 pm): Rollback: Wrong form submitted. Rollback per request of Tina Alobaidan</p> <p>sraper (12/22/17 9:23 am): Rollback: per email conversation, this needs course needs to be deactivated.</p>	<p>10. 01/23/18 2:47 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post</p>
<p>Key: 682</p>	<p>History</p> <p>1. Jun 26, 2017 by cifarellit (682.1)</p>

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 11:59 am

Viewing: **MIN ENG 5113 : ~~Advanced~~-Mine Atmosphere Control**

File: 1257.1

Last edit: 01/08/18 1:40 pm

Changes proposed by: cifarellit

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

Co-Listed

Courses:

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

Key: 1257

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 11/29/17 2:53 pm

Viewing: **MIN ENG 5122 : Advanced Topics in Mine Health and Safety**

File: 2505.1

Last edit: 11/29/17 2:53 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	5122
Title	Advanced Topics in Mine Health and Safety
Abbreviated Course Title	Adv Mine Health and Safety

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

Catalog Description
Advanced topics in mine health and safety including practices and regulations; risks and hazards recognition, mitigation and control; disaster prevention and control. Students will complete a research paper or project report. Pre-requisite: Mi Eng 4122 or Consent of Instructor.

Prerequisites

Field Trip Statement

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

Required for Majors No

Elective for Majors No

Justification for change: Course was being offered to graduate and undergraduate students under two separate course numbers. 4122 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:

Approval Path

1. 12/07/17 10:32 pm
Braden lusk (blusk): Approved for RMINNUCL Chair
2. 12/08/17 10:25 am
Brittany Parnell (ershenb): Approved for CCC Secretary
3. 01/08/18 1:50 pm
sraoper: Approved for Engineering DSCC Chair
4. 01/23/18 2:52 pm
Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Course Reviewer Comments

Key: 2505

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 12:07 pm

Viewing: **MIN ENG 5212 : ~~Advanced~~ Aggregates and Quarrying**

File: 825.1

Last edit: 11/29/17 9:36 am

Changes proposed by: cifarellit

Programs MI ENG-BS: Mining Engineering BS
referencing this
course

Requested **Fall 2018** ~~08/01/2014~~
Effective Change
Date
Department Mining & Nuclear Engineering
Discipline Mining Engineering (MIN ENG)
Course Number 5212
Title ~~Advanced~~ Aggregates and Quarrying
Abbreviated ~~Adv.~~ Aggregates **and &**
Course Title Quarrying

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 trip and a design project. ~~Advanced topics in aggregates mining, mine design and planning, and project valuation. In-pit crushing and conveying, and advances in comminution technology for the aggregates industry. Design project or research paper required.~~

Prerequisites
Min Eng 3912, co-requisite: Civ Eng 3116. ~~Mi-Eng 4212 or Consent of Instructor.~~

Field Trip
Statement

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

Required for
Majors No

Elective for
Majors **Yes** ~~No~~

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. 11/27/17 7:15 pm
Braden lusk
(blusk): Approved
for RMINNUCL
Chair
2. 11/28/17 10:51
am
Brittany Parnell
(ershenb):
Approved for CCC
Secretary
3. 01/08/18 1:42 pm
sraper: Approved
for Engineering
DSCC Chair
4. 01/23/18 3:44 pm
Brittany Parnell
(ershenb):
Approved for
Pending CCC
Agenda post

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

Key: 825

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 12:11 pm

Viewing: **MIN ENG 5322 : ~~Advanced~~Coal Mining Methods**

File: 839.1

Last edit: 11/29/17 10:38 am

Changes proposed by: cifarellit

<p>Programs referencing this course</p> <p><u>MI ENG-BS: Mining Engineering BS</u></p>	<p>In Workflow</p> <ol style="list-style-type: none"> 1. RMINNUCL Chair 2. CCC Secretary 3. Engineering DSCC Chair 4. Pending CCC Agenda post 5. CCC Meeting Agenda
<p>Requested Effective Change Date</p> <p>Fall 2018 08/01/2014</p> <p>Department: Mining & Nuclear Engineering</p> <p>Discipline: Mining Engineering (MIN ENG)</p> <p>Course Number: 5322</p> <p>Title: AdvancedCoal Mining Methods</p> <p>Abbreviated Course Title: AdvCoal Mining Methods</p>	<ol style="list-style-type: none"> 6. Campus Curricula Committee Chair 7. FS Meeting Agenda 8. Faculty Senate Chair 9. Registrar 10. CAT entry 11. Peoplesoft
<p>Catalog Description</p> <p>An in-depth study Advanced topics in coal mining methods, planning and development of all aspects surface and underground mining systems; planning of coal mining, including an overview of the logistics, resources, infrastructure for large-scale surface coal industry, reserves and geology, planning and development of mines; face preparation, equipment interface, haulage systems, sequencing and 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 a research paper or project report.</p> <p>Prerequisites: Min Eng 5912 4322 or consent Consent of instructor. instructor.</p> <p>Field Trip Statement</p> <p>Credit Hours: LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3</p> <p>Required for Majors: No</p> <p>Elective for Majors: Yes No</p>	<p>Approval Path</p> <ol style="list-style-type: none"> 1. 11/27/17 7:15 pm Braden lusk (blusk): Approved for RMINNUCL Chair 2. 11/28/17 10:55 am Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:42 pm srafer: Approved for Engineering DSCC Chair 4. 01/23/18 3:51 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
<p>Justification for change:</p> <p>Semesters previously offered as an</p>	<p>Course was being offered to graduate and undergraduate students under two separate course numbers. 5322 was selected as the course number to utilize based on recommendations of the curriculum committee.</p>

experimental
course
Co-Listed
Courses:

Course Reviewer **sraper (11/29/17 10:38 am):** checked "elective for majors"
Comments

Key: 839

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 11:34 am

Viewing: **MIN ENG 5412 : ~~Advanced~~ Aggregates Materials Sizing and Characterization**

File: 1930.1

Last edit: 11/29/17 10:57 am

Changes proposed by: cifarellit

<p>Programs referencing this course</p> <p><u>MI ENG-BS: Mining Engineering BS</u></p>	<p>In Workflow</p> <ol style="list-style-type: none"> 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
<p>Requested Effective Change Date</p> <p>Fall 2018 08/01/2014</p> <p>Department: Mining & Nuclear Engineering</p> <p>Discipline: Mining Engineering (MIN ENG)</p> <p>Course Number: 5412</p> <p>Title: Advanced Aggregates Materials Sizing and Characterization</p> <p>Abbreviated Course Title: Aggregates Size and Char Adv.Aggregates Siz.& Char.</p>	<p>Approval Path</p> <ol style="list-style-type: none"> 1. 11/27/17 7:15 pm Braden lusk (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 srafer: Approved for Engineering DSCC Chair 4. 01/23/18 3:55 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
<p>Catalog Description</p> <p>Geological formation of aggregates; Advanced methods for evaluating aggregate properties occurrences, extraction, material flow sheet analysis; Advances in processing and their measurements; aggregates for specific end-user applications; specifications classification; advanced statistical methods for quality control and standards; processing (crushing, screening, classification, assurance, and washing); plant design and flow sheet analysis; quality control and assurance. standards. Students will complete and present a research paper on the subject.</p> <p>Prerequisites</p> <p>Min Mi-Eng 2412 4412 or consent Consent of instructor. Instructor.</p> <p>Field Trip Statement</p> <p>Field trip to a nearby quarry required.</p> <p>Credit Hours: LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3</p> <p>Required for Majors: No</p>	

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 **sraper (11/29/17 10:57 am):** checked "Elective for majors"
Comments

Key: 1930

[Preview Bridge](#)

Course Change Request

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 Hghpres 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**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. 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
srafer: 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

[Preview Bridge](#)

Course Change Request

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

Catalog

Description

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**
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. 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
srafer: 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

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 12:33 pm

Viewing: **MIN ENG 5423 : ~~Advanced~~ Flotation and Hydrometallurgy**

File: 1028.1

Last edit: 11/29/17 11:36 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	5423
Title	Advanced Flotation and Hydrometallurgy
Abbreviated Course Title	Flotation and Hydromet Adv Flotat & Hydromet

Catalog Description	Forth flotation including mineral surfaces, double layer theory, zeta potential, hydrophobicity, adsorption, collectors, frothers, modulation, kinetics, and sulphide and acid flotation systems. Hydrometallurgy including leaching, ion exchange and liquid/liquid extraction. Theoretical basis of froth flotation, electrical characteristics at interfaces, interfacial forces, adsorption kinetics and thermodynamics, flotation reagents, flotation process flowsheets. Physicochemical principles of hydrometallurgical processes, leaching methods and reagents. Hydrometallurgical processes flowsheets. Research paper or design project required.
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Prerequisites **Min** ~~Mi-Eng 2412 4423~~ or **consent** ~~Consent~~ of **instructor**. ~~Instructor.~~

Field Trip Statement

Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0	Total: 3
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Required for Majors No

Elective for Majors **Yes** ~~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:

Course Reviewer **srapr (11/29/17 11:36 am)**: checked "elective for majors"
Comments

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. 11/27/17 7:16 pm
Braden lusk (blusk): Approved for RMINNUCL Chair
2. 11/28/17 11:33 am
Brittany Parnell (ershenb): Approved for CCC Secretary
3. 01/08/18 1:43 pm
srapr: Approved for Engineering DSCC Chair
4. 01/23/18 4:05 pm
Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Key: 1028

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 12:38 pm

Viewing: **MIN ENG 5424 : Mineral Processing II Advanced Mechanics And Design**

File: 956.1

Last edit: 11/29/17 11:59 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	5424
Title	Mineral Processing II Advanced -Mechanics And Design
Abbreviated Course Title	Mineral Processing II Advanced Mechanics & Design

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

Catalog Description	Strategy of beneficiation as a combination of unit operations:Mineral sampling and particle size distribution, mineral particle mechanics of comminution, sizing, comminution and energy requirement, mineral crushing and grinding circuits, classification, concentration, filtering and thickening. solid liquid separation and instrumentation, Mineral processing plant flow sheet design. Mill and equipment selection and design including flowsheet, development and plant assessment. Research paper or design project required.				
Prerequisites	Min Eng 2412. (Co-listed with Met Eng 5270). Mi Eng 4424 or Consent of Instructor.				
Field Trip Statement					
Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0	Total: 3
Required for Majors	No				
Elective for Majors	Yes No				

Approval Path

1. 11/27/17 7:16 pm
Braden lusk
(blusk): Approved for RMINNUCL Chair
2. 11/28/17 11:37 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 4:08 pm
Brittany Parnell (ershenb):
Approved for Pending CCC Agenda post

Justification for change: Course was being offered to graduate and undergraduate students under two separate course numbers. 5424 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 **sraper (11/29/17 11:59 am)**: checked "elective for majors"
Comments

Key: 956

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 12:41 pm

Viewing: **MIN ENG 5522 : Advanced Ore Reserve Analysis and And-Geostatistics**

File: 1344.1

Last edit: 01/08/18 1:44 pm

Changes proposed by: cifarellit

Programs referencing this course	<u>MI ENG-BS: Mining Engineering BS</u>	In Workflow <ol style="list-style-type: none"> 1. RMINNUCL Chair 2. CCC Secretary 3. Engineering DSCC Chair 4. Pending CCC Agenda post 5. CCC Meeting Agenda
Requested Effective Change Date	Fall 2018 08/01/2014	6. Campus Curricula Committee Chair
Department	Mining & Nuclear Engineering	7. FS Meeting Agenda
Discipline	Mining Engineering (MIN ENG)	8. Faculty Senate Chair
Course Number	5522	9. Registrar
Title	Advanced Ore Reserve Analysis and And-Geostatistics	10. CAT entry
Abbreviated Course Title	Ore Rsr Anly & Geostat Adv Ore Rsr Anlys & Geostat	11. Peoplesoft
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.	Approval Path <ol style="list-style-type: none"> 1. 11/27/17 7:16 pm Braden lusk (blusk): Approved for RMINNUCL Chair 2. 11/28/17 12:13 pm Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:44 pm srafer: Approved for Engineering DSCC Chair 4. 01/23/18 4:12 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
Prerequisites	Math 3304 & Stat 3113 or Stat 3115 or consent of instructor. instructor consent.	
Field Trip Statement		
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	
Required for Majors	Yes No	
Elective for Majors	No	
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.	
Semesters previously offered as an experimental course		
Co-Listed Courses:		

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

Key: 1344

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 12:50 pm

Viewing: **MIN ENG 5742 : ~~Advanced~~ Environmental Aspects of Mining**

File: 1599.1

Last edit: 01/08/18 1:45 pm

Changes proposed by: cifarellit

Catalog Pages referencing this course	Economics	<p>In Workflow</p> <ol style="list-style-type: none"> 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
Programs referencing this course	MI ENG-BS: Mining Engineering BS	
Other Courses referencing this course	<p>In The Prerequisites:</p> <p>MIN ENG 6712 : Managing Social and Environmental Risks in Mining (Intro to Responsible Mining)</p>	
Requested Effective Change Date	Fall 2018 08/01/2014	<p>Approval Path</p> <ol style="list-style-type: none"> 1. 11/27/17 7:16 pm Braden lusk (blusk): Approved for RMINNUCL Chair 2. 11/28/17 11:53 am Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:45 pm sraper: Approved for Engineering DSCC Chair 4. 01/23/18 4:18 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
Department	Mining & Nuclear Engineering	
Discipline	Mining Engineering (MIN ENG)	
Course Number	5742	
Title	Advanced Environmental Aspects of Mining	
Abbreviated Course Title	Adv Aspects of Mining	
Catalog Description	<p>Permitting: permitting—Applied and fundamental research issues pertaining to:the legal environment of reclamation and environmental impact assessment; post-mining land-use selection and mine planning for optimum reclamation of all mines: metal, nonmetal, and coal; unit operations of reclamation: drainage, backfill, soil replacement, revegetation, maintenance, etc. Course project.</p>	
Prerequisites	<p>Co-requisites: Min Eng 5932 and 5933 or Geo Eng 5441 or Env Eng 5619 or consent of instructor. instructor consent. (Co-listed with Geo Eng 5276).</p>	

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: Course was being offered to graduate and undergraduate students under two
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
Courses: **GEO ENG 5276 - Advanced Environmental Aspects Of Mining**

Course Reviewer
Comments **sraper (01/08/18 1:45 pm):** Changed to "Required for Majors" as reflected on new
DC form.

Key: 1599

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 11:02 am

Viewing: **MIN ENG 5823 : Rock Mechanics** **##**

File: 590.1

Last edit: 01/23/18 4:21 pm

Changes proposed by: cifarellit

Programs referencing this course	MI ENG-BS: Mining Engineering BS	In Workflow 1. RMINNUCL Chair 2. CCC Secretary 3. Engineering DSCC Chair 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 8. Faculty Senate Chair 9. Registrar 10. CAT entry 11. Peoplesoft
Department	Mining & Nuclear Engineering	
Discipline	Mining Engineering (MIN ENG)	
Course Number	5823	
Title	Rock Mechanics ##	
Abbreviated Course Title	Rock Mechanics ##	Approval Path 1. 11/27/17 7:16 pm Braden lusk (blusk): Approved for RMINNUCL Chair 2. 11/28/17 11:57 am Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:46 pm srafer: Approved for Engineering DSCC Chair 4. 01/23/18 4:21 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
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. Advanced methods for designing rock excavation to resolve geotechnical and ground control problems. Ground Control; Topics including stress analysis, rock properties, instrumentation, pillar design, roof span design, rock reinforcement, surface subsidence, slope stability, rock burst, and violent failure. slop stability. Research paper or design project required.	
Prerequisites	Physics 2135; Civ Eng 2210; Geology 3310. Field trip required. Mi Eng 4823 or Consent of Instructor.	
Field Trip Statement		
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	
Required for Majors	Yes No	
Elective for Majors	No	
Justification for change:	Existing 4823 was being taught to grad students under this description and course 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

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 11:55 am

Viewing: **MIN ENG 5912 : Advanced Mine Power and And Drainage**

File: 1696.1

Last edit: 01/08/18 1:46 pm

Changes proposed by: cifarellit

Programs referencing this course	<u>MI ENG-BS: Mining Engineering BS</u>	In Workflow <ol style="list-style-type: none"> 1. RMINNUCL Chair 2. CCC Secretary 3. Engineering DSCC Chair 4. Pending CCC Agenda post 5. CCC Meeting Agenda
Requested Effective Change Date	Fall 2018 08/01/2014	6. Campus Curricula Committee Chair
Department	Mining & Nuclear Engineering	7. FS Meeting Agenda
Discipline	Mining Engineering (MIN ENG)	8. Faculty Senate Chair
Course Number	5912	9. Registrar
Title	Advanced Mine Power and And Drainage	10. CAT entry
Abbreviated Course Title	Adv Mine Power and & Drainage	11. Peoplesoft
Catalog Description	Engineering principles of mine distribution requirements and application and evaluation of mine drainage systems based on power requirements, layouts efficiency, hydraulic gradients, water bearing formations; Risk evaluation of emergency power failures and mine dewatering. flooding. Basics of electrical circuits, AC/DC power, transformers, electric meters, power distribution, and power management. Hydraulic power systems. Compressed air in mines. Mine dewatering. Controlling water inflow. Dewatering wells. Water pumping and pumping systems. Research paper or project required.	Approval Path <ol style="list-style-type: none"> 1. 11/27/17 7:17 pm Braden lusk (blusk): Approved for RMINNUCL Chair 2. 11/28/17 12:18 pm Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:46 pm sraper: Approved for Engineering DSCC Chair 4. 01/23/18 4:24 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
Prerequisites	Mech Mi-Eng 2527 and Civ Eng 3330 4912 or Nuc Eng 3221. Consent of Instructor.	
Field Trip Statement		
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	
Required for Majors	Yes No	
Elective for Majors	No	
Justification for change:	Course was being offered to graduate and undergraduate students under two separate course numbers. 5912 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 **sraper (01/08/18 1:46 pm)**: Change to "Required for Majors" as reflected on new DC
Comments form.

Key: 1696

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 12:59 pm

Viewing: **MIN ENG 5932 : ~~Advanced~~ Underground Mining Methods**

File: 2264.1

Last edit: 01/08/18 1:47 pm

Changes proposed by: cifarellit

Programs [MI ENG-BS: Mining Engineering BS](#)
referencing this course

Other Courses In The Prerequisites:
referencing this course [MIN ENG 5742 : Advanced Environmental Aspects of Mining](#)

Requested Effective Change Date **Fall 2018** ~~08/01/2014~~

Department Mining & Nuclear Engineering
Discipline Mining Engineering (MIN ENG)
Course Number 5932
Title ~~Advanced~~ Underground Mining Methods
Abbreviated **Underground Mining Mth**
Course Title ~~Adv Ungrnd Min Meth & Equip~~

Catalog Description
Principles of ~~Advanced methods for designing, planning, constructing, developing~~ and operating **economically viable** ~~economic and efficient~~ underground **mines. mining systems. 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. Field trip Required. Systems include mass mining methods, room and pillar, longwall, cut and fill with equipment, ventilation and drainage control interface. Research paper or design project required.**

Prerequisites
Preceded ~~Mi-Eng 4932~~ or **accompanied by Min Eng 3913 or consent** ~~Consent of instructor. Instructor.~~

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. 11/27/17 7:17 pm Braden lusk (blusk): Approved for RMINNUCL Chair
2. 11/28/17 12:22 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 01/08/18 1:47 pm sraper: Approved for Engineering DSCC Chair
4. 01/23/18 4:28 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

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: 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.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer **sraper (01/08/18 1:47 pm):** Changed to "Required for Majors" as reflected on new
Comments DC form.

Key: 2264

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 1:03 pm

Viewing: **MIN ENG 5933 : ~~Advanced~~ Surface Mining Methods**

File: 2265.1

Last edit: 01/08/18 1:48 pm

Changes proposed by: cifarellit

Programs referencing this course	<u>MI ENG-BS: Mining Engineering BS</u>	In Workflow 1. RMINNUCL Chair 2. CCC Secretary 3. Engineering DSCC Chair 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 8. Faculty Senate Chair 9. Registrar 10. CAT entry 11. Peoplesoft
Department	Mining & Nuclear Engineering	
Discipline	Mining Engineering (MIN ENG)	
Course Number	5933	
Title	Advanced Surface Mining Methods	
Abbreviated Course Title	Adv Surface Mining Methods	Approval Path 1. 11/27/17 7:17 pm Braden lusk (blusk): Approved for RMINNUCL Chair 2. 11/28/17 12:24 pm Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/08/18 1:48 pm srafer: Approved for Engineering DSCC Chair 4. 01/24/18 9:17 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
Catalog Description	Principles of Advanced topics in surface mine planning, constructing, methods and operating economically viable surface mines. equipment acquisition, and deployment in surface mining operations. Cost effective mining methods: placer mining, strip mining, open pit mining, quarrying. Selection of equipment for surface mining operations. Optimization of mine performance. Field trip required. Strategic and tactical mine planning with focus on efficiency, safety, environmental standards and economics. It will also focus on fleet management with emphasis on repair, rebuild and replacement for higher availabilities, utilization and production output. Students will complete a research paper or project report.	
Prerequisites	Min Eng 3912; Min Eng 3512; preceded 4933 or accompanied by Min Eng 5823 or consent Consent of instructor. Instructor.	
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:	Course was being offered to graduate and undergraduate students under two separate course numbers. 5933 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 **sraper (01/08/18 1:48 pm)**: Changed to "Required for Majors" as reflected on new
Comments DC form.

Key: 2265

[Preview Bridge](#)

Course Change Request

Date Submitted: 10/31/17 11:06 am

Viewing: **MIN ENG 6842 : Advanced Rock Mechanics**

File: 103.1

Last edit: 11/27/17 7:17 pm

Changes proposed by: cifarellit

Programs [GEOT-ME: Geotechnics ME](#)

referencing this course

Requested Effective Change Date **Fall 2018** ~~08/01/2014~~

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

Course Number 6842

Title Advanced Rock Mechanics

Abbreviated Course Title Advanced Rock Mechanics

Catalog Description Advanced topics in static and dynamic rock mechanics; elasticity theory, failure theories and fracture mechanics applied to rock; stress wave propagation and dynamic elastic constants; rock mass classification methods for support design; pillar design in coal and metal mines; introduction to numerical models.

Prerequisites Min Eng ~~5823 4823~~ or Civ Eng 3715.

Field Trip Statement

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

Required for Majors No

Elective for Majors No

Justification for change: pre-requisite change due to other course changes.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments

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. 11/27/17 7:17 pm Braden lusk (blusk): Approved for RMINNUCL Chair
2. 11/28/17 12:28 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 01/08/18 1:48 pm sraper: Approved for Engineering DSCC Chair
4. 01/24/18 9:22 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Key: 103

[Preview Bridges](#)

Course Change Request

Date Submitted: 10/31/17 11:07 am

Viewing: **MIN ENG 6843 : Dynamic Rock Mechanics** ~~IV~~

File: 369.1

Last edit: 11/27/17 7:17 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 6843
 Title **Dynamic** Rock Mechanics ~~IV~~
 Abbreviated **Dynamic** Rock Mechanics ~~IV~~
 Course Title

Catalog Description Advanced topics in dynamic rock mechanics. Stress wave propagation in the earth, dynamic elastic constants in isotropic and anisotropic rock, Hopkinson bar impact analysis, spallation and radial fracturing caused by stress pulses, shock wave generation in rock by explosives, shock wave propagation and effects.

Prerequisites Min Eng **5823** ~~4823~~ or Civ Eng 3715.

Field Trip Statement

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

Required for Majors No

Elective for Majors No

Justification for change: There is no longer a rock mechanics three. course change from 4823 to 5823 required pre-req change.

Semesters previously offered as an experimental course

Co-Listed Courses:

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. 11/27/17 7:17 pm Braden lusk (blusk): Approved for RMINNUCL Chair
2. 11/28/17 1:00 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 01/08/18 1:48 pm sraper: Approved for Engineering DSCC Chair
4. 01/24/18 9:25 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Course Reviewer
 Comments

Key: 369

[Preview Bridge](#)

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
2. 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
4. 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
MIN ENG 2925	2	MIN ENG 2412	3
MIN ENG 3912	3	MATH 3304	3
MATH 2222	4	MECH ENG 2527	3
MIN ENG 3913	3	MECH ENG 2350	2
CIV ENG 2200	3	PHYSICS 2135	4
ECON 1100 or 1200	3		
	18		15
Junior Year			
First Semester	Credits	Second Semester	Credits
STAT 3113 or 3115	3	MIN ENG 4512	3
NUC ENG 3221 or CIV ENG 3330	3	MIN ENG 5522	3

MIN ENG 5932	3	MIN ENG 5823	3
CIV ENG 2210	3	MIN ENG 5933	3
ECON 3512	3	ENGLISH 1600, or 1160, or 3560	3
GEOLOGY 3310	3		
	18		15
Senior Year			
First Semester	Credits	Second Semester	Credits
MIN ENG 5612	3	MIN ENG 5742	3
MIN ENG 5912	3	MIN ENG 4097	4
MIN ENG 4096	3	Technical Elective ^{1,2,3,4,5,6}	3
H/SS Elective	3	H/SS Elective	3
MIN ENG 5113	3		
	15		13

Total Credits: 128

- ¹ **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.
- ⁴ **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.
- ⁵ **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

Junior and Senior Years

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

Senior Year

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

Explosives Engineering Emphasis

Junior and Senior Years

Choose one of the following courses in lieu of Technical Elective in Junior Year:

A three-credit hour explosives engineering (EXP ENG) course

EXP ENG 5922	Advanced Tunneling & Underground Construction Techniques	3
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