

Missouri University of Science and Technology

Formerly University of Missouri-Rolla

### Minutes of the Campus Curricula Committee Meeting May 8, 2019 9:00am, Bertelsmeyer 110H (For Faculty Senate Meeting of June 13, 2019)

Attendees: Steve Raper, Petra Dewitt, Barry Flachsbart, Kyle Perry, Katie Shannon, Kristy Giacomelli and Brittany Parnell

The following curriculum forms were discussed and approved:

#### **Course Change Forms:**

File: 4406.5	BUS 5230: Financial Statement Analysis
File: 4282.12	CHEM ENG 3131: Separations in Chemical and Biochemical Engineering
File: 998.1	CIV ENG 3330: Engineering Fluid Mechanics
File: 1992.1	CIV ENG 3334: Water Resources Engineering
File: 841.1	CIV ENG 4448: Fundamentals Of Contracts And Construction Engineering
File: 110.6	COMP SCI 1200: Discrete Mathematics for Computer Science
File: 4616	COMP SCI 1500: Computational Problem Solving
File: 468.1	COMP SCI 1570: Introduction To C++ Programming
File: 2418.1	COMP SCI 3610_Computer Networks
File: 184.4	COMP SCI 3800: Introduction to Operating Systems
File: 4619	COMP SCI 4090: Software Engineering Capstone I
File: 4620	COMP SCI 4091: Software Engineering Capstone II
File: 637.1	COMP SCI 4610: Computer Security
File: 118.3	EDUC 2102: Educational Psychology
File: 898.6	ELEC ENG 5210: Fourier Optics
File: 2566.6	FINANCE 5160: Corporate Finance II
File: 2190.8	FINANCE 5260: Investments I
File: 1781.1	GEO ENG 3249: Fundamentals Of Computer Applications In Geological Engineering
File: 1052.1	GEO ENG 5381: Intermediate Subsurface Hydrology And Contaminant Transport Mechs
File: 1532.1	MIL AIR 1110: Air Force Heritage and Values I
File: 1390.1	MIL AIR 1120: Air Force Heritage and Values II
File: 418.1	MIL AIR 2110: Team and Leadership Fundamentals I
File: 1092.1	MIL AIR 2120: Team and Leadership Fundamentals II
File: 419.1	MIL AIR 3110: Leading People & Effective Communication I
File: 1093.1	MIL AIR 3120: Leading People & Effective Communication II
File: 420.1	MIL AIR 4110: National Security, Leadership Responsibilities & Commissioning
	Preparation I



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File: 748.1	MIL AIR 4120: National Security, Leadership Responsibilities & Commissioning
	Preparation II
File: 4087.3	NUC ENG 4577: Nuclear Forensics and Radiochemistry
File: 4623	NUC ENG 5577: Advanced Nuclear Forensics and Radiochemistry
File: 4189.4	PET ENG 3320: Petrophysics
File: 1045.2	PET ENG 3330: Well Logging
File: 2614.1	PET ENG 3520: Petroleum Reservoir Engineering
File: 285.1	PET ENG 4097: Petroleum Engineering Design
File: 1671.6	PET ENG 4311: Reservoir Characterization
File: 1299.1	PET ENG 4431: Well Completion Design
File: 1266.1	PET ENG 4611: Secondary Recovery Of Petroleum
File: 919.1	PET ENG 4720: Mechanical Earth Modeling
File: 2142.1	PET ENG 4811: Offshore Petroleum Technology
File: 4175.2	PET ENG 6431: Advanced Well Completion Design
File: 79.1	PET ENG 6621: Advanced Applied Reservoir Simulation

#### **Degree Change Forms:**

0	
File: 142.43	AP MATH-BS: Applied Mathematics BS
File: 237.20	BIOMED-MI: Biomedical Engineering Minor
File: 28.44	CMP SC-BS: Computer Science BS
File: 29.11	CMP SC-MI: Computer Science Minor
File: 161.5	CP ENG-MS: Computer Engineering MS
File: 162.2	CP ENG-PHD: Computer Engineering PhD
File: 163.5	EL ENG-MS: Electrical Engineering MS
File: 164.2	EL ENG-PHD: Electrical Engineering PhD
File: 46.11	ENG MG-MS: Engineering Management MS
File: 58.15	FINANCE-MI: Finance Minor
File: 156.24	GE ENG-BS: Geological Engineering BS
File: 64.25	GL&GPH-BS: Geology and Geophysics BS
File: 70.4	GLBLSTD-MI: Global Studies Minor
File: 108.29	PE ENG-BS: Petroleum Engineering BS
File: 115.30	PHYSIC-BS: Physics BS
File: 172.3	PHYSIC-MS: Physics MS
File: 215.1	PHYSIC-PHD: Physics PhD
File: 192.33	PSYCH-BA: Psychology BA
File: 193.29	PSYCH-BS: Psychology BS
File: 131.13	SYS EN-PHD: Systems Engineering PhD
File: 140.8	SYS ENG-MS: Systems Engineering MS



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#### **Experimental Course Forms:**

File: 4628	CHEM ENG 5001.005: AIChE Design Competition
File: 4629	CHEM ENG 5001.006: Chemical Process Modeling and Analysis
File: 4627	CHEM ENG 5001.007: Renewable Energy Processes
File: 4621	CIV ENG 5001.003: Base Courses in Pavements
File: 4596	COMP SCI 5001.003: Game Theory for Computing
File: 4598	COMP SCI 5001.004: Introduction to Virtual Reality
File: 4597	COMP SCI 6001.003: Algorithmic Game Theory
File: 4595	COMP SCI 6001.004: Introduction to Quantum Computing
File: 4622	GEOPHYS 6001.001: Advanced Geophysical Data Analysis
File: 4626	MATH 5001.002: Introduction to Finite Element Methods
File: 4625	MATH 6001.005: Discontinuous Galerkin Methods for Solving Partial Differential
	Equations
File: 4632	MATH 6001.006: Numerical Analysis in Computational Fluid Dynamics
File: 4630	PET ENG 4001.006: Reservoir Engineering Aspects of Unconventional Oil and Gas
File: 4631	PET ENG 6001.011: Advanced Reservoir Engineering Aspects of Unconventional Oil and
	Gas
File: 4617	PHYSICS 6001.001: Random Processes and Wave Coherence

The new course proposal, *CHEM ENG 5240: Pharmaceutical Engineering*, was not approved due to low enrollment as an experimental course per the Chancellor's No. II-30 policy.

The new course proposal, *NUC ENG 5577: Advanced Nuclear Forensics and Radiochemistry*, was approved as required of the proposed Nuclear Nonproliferation Graduate Certificate. The Campus Curricula Committee advises that it is not customary practice to approve a required, new course proposal for a graduate certificate that is pending approval.

The degree form, *CP ENG-BS Computer Engineering*, was approved to remove the listing of ELEC ENG 3411 from Footnote 9.

The meeting adjourned at 10:24 a.m.

Steph a. Rapen

Stephen A. Raper, Chair Missouri S&T Campus Curricula Committee

Date Submitted: 04	./13/19 5:42 pm			
Viewing: <b>BUS 5</b> File: 4406.5	5230 : Financial Statement Analysis		In Workflow 1. RBUSADMN	
Last approved: 05	5/01/17 3:14 am		Chair 2. CCC Secretary	
Last edit: 04/15/1			3. Social Sciences	
Changes proposed l	by: barryf		DSCC Chair	
Programs referencing this course	BUS&MS-BS: Business and Mgmt Systems BS FIN TCH-MI: Minor in Financial Technology (FinTech) FINANCE-CT: Finance CT FIN TCH-CT: Financial Technology CT FINANCE-MI: Finance Minor	<b>^</b>	<ol> <li>Pending CCC Agenda post</li> <li>CCC Meeting Agenda</li> <li>Campus Curricula Committee Chair</li> </ol>	
Requested Effective Change Date	Fall 2019 <del>08/14/2017</del>		<ol> <li>FS Meeting Agenda</li> <li>Faculty Senate Chair</li> </ol>	
Department	Business and Information Technology		<ol> <li>9. Registrar</li> <li>10. CAT entry</li> </ol>	
Discipline	Business (BUS)		11. Peoplesoft	
Course Number	5230			
Title	Financial Statement Analysis		Approval Path	
Abbreviated Course Title	Financial Stmt Analysis		1. 04/14/19 12:51 am	
Catalog Description	Analysis and interpretation of financial statements for profitability analysis, credit analysis, and other business analyses that rely on financial data. Introduces emerging roles of accounting analytics. Illustrates data analytics concepts and techniques to detect earning management, predict fraud, and to provide insights into other business strategies.		siauk: Approved for RBUSADMN Chair 2. 04/15/19 8:25 an Brittany Parnell (ershenb):	
Prerequisites	Finance 2150 or equivalent basic corporate finance knowledge. <del>FINANCE 2150 or</del> Graduate Standing.		Approved for CCC Secretary	
Field Trip Statement			3. 04/15/19 12:43 pm Barry Flachsbart	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3		(barryf):	
Required for Majors	No		Approved for Social Sciences DSCC Chair	
Elective for Majors	Yes		4. 04/18/19 9:06 an Brittany Parnell	
Justification for change:	Most graduate students have not come through our undergraduate program and have not taken our course on corporate finance (2150). This clarifies that the knowledge is needed, even if the specific course has not been taken. For undergrads, FIN 2150 continues to be appropriate.		(ershenb): Approved for Pending CCC Agenda post 5. 05/08/19 11:10 am	

Semesters		Brittany Parnell
previously		(ershenb):
offered as an		Approved for CCC
experimental		Meeting Agenda
course	e	5. 05/08/19 11:54
Co-Listed		am
Courses:		Stephen Raper
		(sraper):
Course Reviewer		Approved for
Comments		Campus Curricula
	Key: 4406	Committee Chair

#### History

 May 1, 2017 by Barry Flachsbart (barryf)

Date Submitted: 03/	26/19 4:59 pm		
Viewing: CHEM	ENG 3131 : Separations in Chemical and		In Workflow
Biochemical	Engineering		<ol> <li>RCHEMENG Chair</li> <li>CCC Secretary</li> <li>Engineering DSCC</li> </ol>
Last approved: 03/	Chair		
Last edit: 04/04/19			4. Pending CCC
Changes proposed b	y: jcwang		Agenda post 5. CCC Meeting
Programs referencing this	CH ENG-BS: Chemical Engineering BS	^	Agenda 6. Campus Curricula Committee Chair
course Other Courses	In The Prerequisites:		7. FS Meeting Agenda
referencing this course	CHEM ENG 4091 : Chemical Process Design I CHEM ENG 4110 : Chemical Engineering Process Dynamics And Control		<ol> <li>Faculty Senate Chair</li> <li>Registrar</li> </ol>
	CHEM ENG 4130 : Chemical Engineering Laboratory II CHEM ENG 5250 : Isolation and Purification of Biologicals		10. CAT entry 11. Peoplesoft
Requested Effective Change Date	Spring 2020 <del>08/14/2017</del>		Approval Path 1. 04/04/19 5:09 pm Muthanna Al-
Department	Chemical and Biochemical Engineering		Dahhan (aldahhanm):
Discipline	Chemical Engineering (CHEM ENG)		Approved for
Course Number	3131		RCHEMENG Chair
Title	Separations in Chemical and Biochemical Engineering		2. 04/04/19 6:29 pm Brittany Parnell
Abbreviated Course Title	Process Biochemical Separations		(ershenb): Approved for CCC
Batch distillation. Prerequisites	distillation. McCabe-Thiele method, plate efficiencies. Azeotropes. Absorption and stripping. Washing and leaching. Chem Eng 3111, and Chem Eng 3120. Admitted to the Chemical ram.		Secretary 3. 04/19/19 8:53 am Stephen Raper (sraper): Approved for Engineering DSCC Chair 4. 04/23/19 11:22 am Brittany Parnell
Statement			(ershenb):

https://nextcatalog.mst.edu/courseleaf/courseleaf.cgi?page=/courseadmin/4282/index.html... 5/14/2019

Credit Hours Required for Majors Elective for Majors	LEC: 3 Yes No	LAB: 0	IND: 0	RSD: 0	Total: 3	Approved for Pending CCC Agenda post 5. 05/08/19 11:11 am Brittany Parnell (ershenb):
Justification for change: Change the abbre bioseparation-rela Semesters previously offered as an experimental course						Approved for CCC Meeting Agenda 6. 05/08/19 11:54 am Stephen Raper (sraper): Approved for Campus Curricula Committee Chair
Co-Listed Courses: Course Reviewer Comments						History 1. Jan 10, 2017 by Daniel Forciniti (forcinit) 2. Mar 6, 2017 by
					Key: 4282	kristyg (4282.11)

Date Submitted: 02/07/19 10:05 am

## Viewing: CIV ENG 3330 : Engineering Fluid Mechanics

File: 998.1 Last edit: 05/08/19 11:12 am Changes proposed by: seelyj

Programs referencing this course	<u>PE ENG-BS: Petroleum Engineering BS</u> <u>AP MATH-BS: Applied Mathematics BS</u> <u>ARC ENG-BS: Architectural Engineering BS</u> <u>CV ENG-BS: Civil Engineering BS</u> <u>GE ENG-BS: Geological Engineering BS</u> <u>EV ENG-BS: Environmental Engineering BS</u>
Other Courses referencing this course	In The Prerequisites:ARCH ENG 4800 : Principles of HVAC ICHEM ENG 6330 : Physicochemical Operations InEnvironmental Engineering SystemsCIV ENG 3333 : Engineering HydrologyCIV ENG 3334 : Water Resources EngineeringCIV ENG 3335 : Hydraulic EngineeringCIV ENG 3335 : Hydraulic EngineeringCIV ENG 3330 : Unsteady Flow HydraulicsCIV ENG 5330 : Unsteady Flow HydraulicsCIV ENG 5331 : Hydraulics Of Open ChannelsCIV ENG 5332 : Transport Processes in Environmental FlowsCIV ENG 5333 : Intermediate Hydraulic EngineeringCIV ENG 5333 : Intermediate Hydraulic EngineeringCIV ENG 5335 : Water Infrastructure EngineeringCIV ENG 5337 : River Mechanics And Sediment TransportCIV ENG 5660 : Introduction To Air PollutionCIV ENG 5662 : Air Pollution Control MethodsCIV ENG 6611 : Physicochemical Operations In EnvironmentalEngineeringCIV ENG 6612 : Biological Operations In EnvironmentalEngineering SystemsENV ENG 5660 : Introduction To Air PollutionENV ENG 5660 : Introduction To Air PollutionEngineering SystemsENV ENG 5661 : Physicochemical Operations In EnvironmentalEngineering SystemsENV ENG 5660 : Introduction To Air PollutionENV ENG 5660 : Introduction To Air Po
	Engineering Systems ENV ENG 6612 : Biological Operations In Environmental Engineering Systems GEO ENG 5320 : Groundwater Modeling GEO ENG 5381 : Intermediate Subsurface Hydrology And

#### In Workflow

- 1. RCIVILEN 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

- 03/13/19 5:48 am Joel Burken (burken): Approved for RCIVILEN Chair
- 2. 03/13/19 8:05 am Brittany Parnell (ershenb): Approved for CCC Secretary
- 3. 03/25/19 1:58 pm Stephen Raper (sraper): Approved for Engineering DSCC Chair
- 4. 04/23/19 11:23

  am
  Brittany Parnell
  (ershenb):
  Approved for

	MECH ENG 5 MECH ENG 5 Control MIN ENG 51 MIN ENG 59	13 : Mine Atmo 12 : Mine Powe	iental Controls cal Systems For E sphere Control			Pending CCC Agenda post 5. 05/08/19 11:13 am Brittany Parnell (ershenb): Approved for CCC Meeting Agenda	
Requested Effective Change Date	Fall 2019 <del>08,</del>	<del>/14/2018</del>				6. 05/08/19 11:54 am Stephen Raper (sraper):	
Department	Civil, Archite	ctural, and Envi	ronmental Engin	neering		Approved for	
Discipline	Civil Enginee	ring (CIV ENG)				Campus Curricula	
Course Number	3330					Committee Chair	
Title	Engineering	Fluid Mechanic	5				
Abbreviated Course Title	Engineering	Fluid Mechanic	5				
Catalog Description	and the cont Applications	Study of fluids at rest and in motion. Topics include fluid properties, statics of fluids, and the control volume approach to conservation of mass, momentum and energy. Applications include flow in pipes, pipe systems, external flow, and fluid flow measurements.					
Prerequisites	-	n Eng 2340, Me		-	<del>ech Eng 2340,</del> and <b>in</b> H 3304, each with a		
Field Trip Statement							
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3		
Required for Majors	Yes <del>No</del>						
Elective for Majors	No						
Justification for change:	All three Dyr	namics courses	will work as a pre	erequisite for this	s class.		
Semesters previously offered as an experimental course							
Co-Listed Courses:							

Course Reviewersraper (03/25/19 1:58 pm): Changed prereq as suggested by DSCC member.Commentsershenb (05/08/19 11:12 am): checked "Yes" for majors.

https://nextcatalog.mst.edu/courseleaf/courseleaf.cgi?page=/courseadmin/998/index.html&... 5/14/2019

Date Submitted: 02,				<b>-</b>		In Workflow
/iewing: CIV EI	NG 3334	: Water R	lesources	Engineerir	Ig	1. RCIVILEN Chair
ile: 1992.1						2. CCC Secretary
ast edit: 05/08/1						3. Engineering DSC
Changes proposed b	oy: seelyj					Chair
Programs referencing this course		<u>Civil Engineerin</u> Environmental I				<ul> <li>A. Pending CCC</li> <li>Agenda post</li> <li>5. CCC Meeting</li> <li>Agenda</li> </ul>
Other Courses referencing this course	In The Prere <u>CIV ENG 533</u>	equisites: 38 : Hydrologic E	Ingineering			<ul> <li>6. Campus Curricula Committee Chair</li> <li>7. FS Meeting Agenda</li> </ul>
Requested Effective Change Date	Fall 2019 <del>08</del>	<del>/14/2018</del>				<ol> <li>8. Faculty Senate Chair</li> <li>9. Registrar</li> <li>10. CAT entry</li> <li>11. Decenler of t</li> </ol>
Department	Civil, Archite	ectural, and Envi	ronmental Engir	eering		11. Peoplesoft
Discipline	Civil Enginee	ering (CIV ENG)				Approval Path
Course Number	3334					1. 03/13/19 5:48 an
Title Abbreviated Course Title	Water Resou Water Resou	urces Engineerir urces Engr	lg			Joel Burken (burken): Approved for RCIVILEN Chair
analysis, flow rou Prerequisites	pen channels, uting; and grou r <b>better in</b> Civ	surface water h ind-water hydro Eng 3330 and <b>in</b>	ydrology, rainfal llogy. one of Stat <b>311</b>	closed conduits, l analysis, hydrogr 1, Stat 3113, Stat		<ul> <li>2. 03/13/19 8:08 an Brittany Parnell (ershenb): Approved for CCC Secretary</li> <li>3. 03/25/19 1:59 pn Stephen Raper (sraper): Approved for</li> </ul>
Field Trip Statement						Engineering DSCC Chair 4. 04/23/19 11:24
Credit Hours	LEC: 3	LAB: 1	IND: 0	RSD: 0	Total: 4	am Brittany Parnell
Required for Majors	Yes <del>No</del>					(ershenb): Approved for

Elective for	No	Pending CCC
Majors		Agenda post
Justification for change: All four 3000 leve	el Stat classes will work as a prerequisite for this course.	5. 05/08/19 11:15 am Brittany Parnell (ershenb):
Semesters		Approved for CCC
previously		Meeting Agenda
offered as an		6. 05/08/19 11:54
experimental		am
course		Stephen Raper
		(sraper):
Co-Listed		Approved for
Courses:		Campus Curricula
		Committee Chair
Course Reviewer Comments	sraper (03/25/19 1:59 pm): Change prereq as suggested by DSCC member. ershenb (05/08/19 11:14 am): corrected spelling for "better" in prerequisites and checked "yes" required for majors	,
		Key: 1992
		Preview Bridge

Date Submitted: 02/07/19 11:57 am

## Viewing: CIV ENG 4448 : Fundamentals Of Contracts And

## **Construction Engineering**

File: 841.1 Last edit: 03/25/19 2:00 pm Changes proposed by: seelyj

Programs referencing this course Other Courses referencing this course	CV ENG-BS: Civil Engineering BS         EV ENG-BS: Environmental Engineering BS         In The Catalog Description:         ARCH ENG 4448 : Fundamentals Of Contracts And         Construction Engineering         In The Prerequisites:	^	Agenda post 5. CCC Meeting Agenda 6. Campus Curricula Committee Chair 7. FS Meeting Agenda 8. Faculty Senate Chair
	ARCH ENG 4097 : Senior Design Project ARCH ENG 5448 : Green Engineering: Analysis of Constructed Facilities CIV ENG 4097 : Senior Design Project		9. Registrar 10. CAT entry 11. Peoplesoft
	CIV ENG 5445 : Construction Methods CIV ENG 5446 : Management Of Construction Costs CIV ENG 5448 : Green Engineering: Analysis of Constructed Facilities CIV ENG 5449 : Engineering and Construction Contract Specifications ENV ENG 4097 : Senior Design Project	~	Approval Path 1. 03/13/19 5:48 am Joel Burken (burken): Approved for RCIVILEN Chair 2. 03/13/19 8:08 am
Requested Effective Change Date	Fall 2019 <del>08/14/2018</del>		2. 03/13/19 8.08 and Brittany Parnell (ershenb): Approved for CCC Secretary 3. 03/25/19 2:00 pm
Department	Civil, Architectural, and Environmental Engineering		Stephen Raper
Discipline	Civil Engineering (CIV ENG)		(sraper):
Course Number Title Abbreviated Course Title	4448 Fundamentals Of Contracts And Construction Engineering Fund Contract & Const En		Approved for Engineering DSCC Chair 4. 04/23/19 11:24 am Brittany Parnell
Catalog Description			(ershenb): Approved for

In Workflow

1. RCIVILEN Chair

CCC Secretary
 Engineering DSCC

4. Pending CCC

Chair

A study of the concepts and techniques used in large construction projects for the preparation of engineer service contracts, the development of a project manual, detailed and conceptual cost estimating, and construction scheduling analysis. Prerequisites Junior Senior Standing. Field Trip Statement							Pending CCC Agenda post 05/09/19 11:15 am Brittany Parnell (ershenb): Approved for CCC Meeting Agenda 05/09/19 1:21 pm
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3		Stephen Raper
Required for Majors	Yes <del>No</del>						(sraper): Approved for Campus Curricula
Elective for Majors	No						Committee Chair
Justification for change: Semesters previously offered as an experimental course	Allow students construction ar		s earlier to allow	v time for upper	level depth in the		
Co-Listed Courses:	ARCH ENG 4448	3 - Fundamental	s Of Contracts /	And Construction	n Engineering		
Course Reviewer Comments	sraper (03/25/ like junior stand		anged to requi	red for major. DS	CC member does not		
							Key: 841

Date Submitted: 04/01/19 5:33 am

### Viewing: COMP SCI 1200 : Discrete Mathematics for Computer

### Science

File: 110.6 Last approved: 02/05/18 3:29 am Last edit: 04/01/19 5:33 am Changes proposed by: tauritzd

Programs referencing this course	<u>CP ENG-BS: Computer Engineering BS</u> <u>CMP SC-BS: Computer Science BS</u>
Other Courses referencing this course	In The Prerequisites: COMP SCI 2200 : Theory of Computer Science COMP SCI 2500 : Algorithms COMP SCI 2889 : Introduction To Computer Organization And Assembly COMP SCI 3800 : Introduction to Operating Systems COMP SCI 5300 : Database Systems MATH 5107 : Combinatorics And Graph Theory PHILOS 3254 : Symbolic Logic in Argumentation

Requested Effective Change Date	Spring 2020 <del>08/14/2018</del>
Department	Computer Science
Discipline	Computer Science (COMP SCI)
Course Number	1200
Title	Discrete Mathematics for Computer Science
Abbreviated Course Title	Discrete Math For Cmp Sc

#### Catalog

Description

This course provides a A-rigorous treatment of topics from discrete mathematics which are essential to computer science. Principal topics include: formal logic (propositional & predicate), set theory, proof techniques, mathematical induction, program correctness, sets, combinatorics, discrete probability, relations, functions, matrices, graph theory and graph theory. algorithms.

#### In Workflow

- 1. RCOMPSCI 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

- 03/29/19 3:17 pm Bruce McMillin (ff): Rollback to Initiator
- 2. 04/01/19 8:09 am Bruce McMillin (ff): Approved for RCOMPSCI Chair
- 3. 04/01/19 4:30 pm Brittany Parnell (ershenb): Approved for CCC Secretary
- 4. 04/15/19 10:36

  am
  Stephen Raper
  (sraper):
  Approved for
  Engineering DSCC
  Chair

Prerequisites A grade of "C" or of Math 1120, M Field Trip Statement				<b>Sci</b> 1570 and <b>in</b> o	ne	<ul> <li>5. 04/23/19 11:39</li> <li>am</li> <li>Brittany Parnell</li> <li>(ershenb):</li> <li>Approved for</li> <li>Pending CCC</li> </ul>
Credit Hours Required for Majors Elective for Majors	LEC: 3 Yes No	LAB: 0	IND: 0	RSD: 0	Total: 3	Agenda post 6. 05/09/19 11:17 am Brittany Parnell (ershenb): Approved for CCC Meeting Agenda
Justification for change: Minor update of t the new course C Semesters previously		-	-	-	of	<ul> <li>7. 05/09/19 1:21 pm</li> <li>Stephen Raper</li> <li>(sraper):</li> <li>Approved for</li> <li>Campus Curricula</li> <li>Committee Chair</li> </ul>
offered as an experimental course Co-Listed Courses:						<ul> <li>History</li> <li>1. Apr 28, 2014 by lahne (110.1)</li> <li>2. Feb 5, 2018 by tauritzd (110.2)</li> </ul>
Course Reviewer Comments	hold until w curriculum 6 for discre	ve discuss more - DS/Basic Logic. N te math shows t	<ul> <li>this is a specific</li> <li>Moreover, the th</li> <li>hat students are</li> </ul>	example noted b eory measureme	nt of student outc meeting standards	omes

Key: 110
Preview Bridge

	New Course Proposal	In Workflow
Date Submitted: 03,	′29/19 3:49 pm	1. RCOMPSCI Chair
/iewing: COMF	2. CCC Secretary	
-ile: 4616		3. Engineering DSC
_ast edit: 03/29/1	9 3:49 pm	Chair
Changes proposed b	y: tauritzd	4. Pending CCC
Programs referencing this course	CMP SC-BS: Computer Science BS         CMP SC-MI: Computer Science Minor	Agenda post 5. CCC Meeting Agenda 6. Campus Curricul
Requested Effective Change Date	Fall 2019	Committee Chain 7. FS Meeting Agenda 8. Faculty Senate Chair
Department	Computer Science	9. Registrar
Discipline	Computer Science (COMP SCI)	<ol> <li>CAT entry</li> <li>Peoplesoft</li> </ol>
Course Number	1500	11. Peopleson
Title	Computational Problem Solving	Approval Path
Abbreviated Course Title	Computational Solving	1. 03/29/19 3:15 p Bruce McMillin (ff): Rollback to
Catalog Description	This course provides a rigorous introduction to computational problem solving, thinking, and debugging, for those with little-to-no experience in computer science. Language-agnostic foundations focus on pseudo-code, flowcharts, and software- based code tracing, then build to programming in a high-level interpreted language, with a focus on data and modeling.	Initiator 2. 03/29/19 3:47 pr Bruce McMillin (ff): Rollback to Initiator
Prerequisites		3. 03/29/19 3:52 pi
Field Trip Statement		Bruce McMillin (ff): Approved fo RCOMPSCI Chair
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	4. 04/01/19 4:29 p
Required for Majors	Yes	Brittany Parnell (ershenb):
Elective for Majors	No	Approved for CC Secretary 5. 04/15/19 10:37
Justification for new course:	This course is part of the new BS in CS degree program being proposed (see DC form). It provides students campus-wide with a rigorous introduction to computational problem solving in a high-level programming language, and will be the prereq for the existing core CS course Comp Sci 1570. The justification for creating this new first core course in the program is three-fold, namely: (a) This program's ABET student outcome 2 as measured by the Introductory Programming rubric in CS 1570, has been failing consistently for several years, indicating that students are not grasping programming fundamentals. The new	am Stephen Raper (sraper): Approved for Engineering DSC Chair 6. 04/23/19 11:39 am

Semesters previously offered as an experimental course Co-Listed Courses:	course CS1500 addresses this by providing a significant grounding in programming fundamentals before the students cover more advanced programming topics in CS1570 and more advanced data structures in CS1575. (b) Aligning this course with one of the core goals of the First Year Experience (FYE), namely to provide all FYE students with an experience reflective of what CS is really about to help them decide whether this is the right major for them. (c) Diversifying the CS student body by attracting non-traditional majors by showcasing societal impact through computational problem solving rather than ignoring societal impact by narrowly focusing on the technicalities of low-level programming. None. We're skipping experimental status as this is a required course for the new BS in CS degree program being proposed (see DC form).	Brittany Parnell (ershenb): Approved for Pending CCC Agenda post 7. 05/09/19 11:17 am Brittany Parnell (ershenb): Approved for CCC Meeting Agenda 8. 05/09/19 1:22 pm Stephen Raper (sraper): Approved for Campus Curricula Committee Chair
Course Reviewer Comments	ff (03/29/19 3:15 pm): Rollback: This needs to be justified in terms of failing measurement of ABET student outcome 2 as measured by the Introductory Programming rubric in CS 1570 for several years, consistently. ff (03/29/19 3:47 pm): Rollback: Missing clause in 1500 in writeup	

Key: 4616

Date Submitted: 03/27/19 6:38 am

## Viewing: COMP SCI 1570 : Introduction To C++ Programming

File: 468.1 Last edit: 04/02/19 11:45 am

Changes proposed by: tauritzd

Programs referencing this course	PHYSIC-BS: Physics BS AP MATH-BS: Applied Mathematics BS CH ENG-BS: Chemical Engineering BS CP ENG-BS: Computer Engineering BS EL ENG-BS: Electrical Engineering BS PSYCH-BS: Psychology BS CMP SC-BS: Computer Science BS CMP SC-MI: Computer Science Minor MC ENG-BS: Mechanical Engineering BS	^	5. 6. 7.	Pending CCC Agenda post CCC Meeting Agenda Campus Curricula Committee Chair FS Meeting Agenda Faculty Senate Chair
Other Courses referencing this	In The Prerequisites: <u>AERO ENG 5139 : Computational Fluid Dynamics</u> <u>AERO ENG 5449 : Robotic Manipulators and Mechanisms</u>		10.	Registrar CAT entry
Course	AERO ENG 5830 : Applied Computational MethodsBIO SCI 5323 : BioinformaticsCHEM ENG 3111 : Numerical Computing in Chemical andBiochemical EngineeringCOMP ENG 3150 : Introduction to Microcontrollers andEmbedded System DesignCOMP ENG 3151 : Digital Engineering Lab IICOMP SCI 1200 : Discrete Mathematics for Computer ScienceCOMP SCI 1575 : Data StructuresCOMP SCI 1580 : Introduction To Programming LaboratoryCOMP SCI 2501 : Java and Object Oriented DesignCOMP SCI 5700 : BioinformaticsGEOPHYS 5251 : Introduction To Geophysical Data AnalysisMECH ENG 3313 : Machine DynamicsMECH ENG 3313 : Machine DynamicsMECH ENG 3525 : Heat TransferMECH ENG 5139 : Computational Fluid DynamicsMECH ENG 5139 : Computational Fluid DynamicsMECH ENG 5763 : Computer Aided Design: Theory andPractice		A) 1. 2.	Peoplesoft pproval Path 03/29/19 3:13 pm Bruce McMillin (ff): Approved for RCOMPSCI Chair 04/02/19 11:46 am Brittany Parnell (ershenb): Approved for CCC Secretary 04/15/19 12:34 pm Stephen Raper (sraper): Approved for Engineering DSCC Chair 04/23/19 11:40 am
	MECH ENG 5830 : Applied Computational Methods	~		am Brittany Parnell

In Workflow

Chair

1. RCOMPSCI Chair

3. Engineering DSCC

2. CCC Secretary

(ershenb):

Requested Effective Change Date Department Discipline Course Number Title Abbreviated Course Title	1570	nce nce (COMP SCI) o <b>C++</b> Programmi	ing			Approved for Pending CCC Agenda post 5. 05/09/19 11:17 am Brittany Parnell (ershenb): Approved for CCC Meeting Agenda 6. 05/09/19 1:22 pm Stephen Raper
Catalog Description <b>Object-Oriented</b> placed on <del>probler</del> and algorithm des syntax/semantics decision-branchin management, po exception handlin Oriented Program programming inte	m solving method sign and develop , logical, relation ag, loops, function inters, classes, ir ng. output forma aming including t	ds using good pro- ment. Topics inco al and arithmetions, file I/O, C-stri sheritance, temp tting, C-strings,	ogramming <b>pra</b> Ilude included a coperators, cor ings, arrays, me olates, polymor and an introduc	ctices. <del>practices</del> re ntrol flow/decisio mory phism, and <del>tion to Object-</del>		(sraper): Approved for Campus Curricula Committee Chair
Prerequisites Field Trip			<del>ompanied by </del> Co	omp Sci <b>1500 and</b>	accompanied by	
Statement Credit Hours	LEC: <b>3</b>	LAB: <b>0</b>	IND: <b>0</b>	RSD: <b>0</b>	Total: <b>3</b>	
Required for Majors	Yes <del>No</del>					
Elective for Majors	No					
Justification for change: Semesters previously offered as an	becomes the se Comp Sci 1500 introduction to language. Cons more advanced	econd in the pro- course which pr computational equently, this co C++ programm of C++ as oppose	gramming cours ovides students problem solving purse will be fas ing topics. The t	campus-wide wi in a high-level p ter paced and ex itle is being chan	ceded by the new th a rigorous	

	Key 45
Comments	
Course Reviewer	
Courses:	
Co-Listed	
course	
experimental	

Date Submitted: 03/29/19 3:29 pm

### Viewing: COMP SCI 3610 4600 : Computer Communications And

### Networks

File: 2418.1 Last edit: 04/02/19 11:47 am Changes proposed by: tauritzd

CMP SC-BS: Computer Science BS Programs referencing this course

Requested Effective Change Date	Fall 2019 <del>08/14/2018</del>
Department	Computer Science
Discipline	Computer Science (COMP SCI)
Course Number	3610 4 <del>600</del>
Title	Computer Communications And Networks
Abbreviated Course Title	Computer Networks <del>Comp</del> Comm And Networks

#### Catalog

Description

This course covers general principles of computer networking, focusing primarily on internet protocols. It covers the TCP/IP stack, with the application layer first, moving down through link and physical layers. Topics include network virtualization, security, wireless, and mobile networks, with extensive live protocol analysis. Coursework is project based. Network architecture model including physical protocols for data transmission and error detection/correction, data link concepts, LAN protocols, internetworking, reliable end to end service, security, and application services. Students will implement course concepts on an actual computer network.

#### Droroquicitor

	am								
A grade of "C"	Stephen Raper								
Field Trip						(sraper):			
Statement	Statement								
						Engineering DSC			
Credit Hours	LEC: <b>3</b>	LAB: <b>0</b>	IND: <b>0</b>	RSD: <b>0</b>	Total: 3	Chair			

#### In Workflow

- 1. RCOMPSCI 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. 03/29/19 3:12 pm **Bruce McMillin** (ff): Rollback to Initiator
- 2. 03/29/19 3:31 pm **Bruce McMillin** (ff): Approved for **RCOMPSCI** Chair
- 3. 04/02/19 11:49 am **Brittany Parnell** (ershenb): Approved for CCC Secretary
- 4. 04/15/19 10:37

Required for Majors Elective for Majors	Yes No	5. 04/23/19 11:41 am Brittany Parnell (ershenb): Approved for
level, and with a computer netwo	quired in the revised BS in CS (see DC form), moved to the 3000- n updated catalog description. This corrects the lack of coverage of rks in this program which is a Core-Tier1 requirement of the uter Science Curricula 2013 - Curriculum Guidelines for Degree Programs in Computer Science.	Pending CCC Agenda post 6. 05/09/19 11:18 am Brittany Parnell (ershenb): Approved for CCC Meeting Agenda 7. 05/09/19 1:22 pm Stephen Raper (sraper): Approved for Campus Curricula Committee Chair
Co-Listed Courses:		I
Course Reviewer Comments	ff (03/29/19 3:12 pm): Rollback: ACM/IEEE curriculum requires networking of the BS in CS.	g as part

Key: 2418

Date Submitted: 03		•	In Workflow
-	P SCI 3800 : Introduction to Operating Systen	15	1. RCOMPSCI Chair
ile: 184.4			2. CCC Secretary
ast approved: 06			3. Engineering DSC
ast edit: 03/07/1	9 12:35 pm		Chair
Changes proposed	by: tauritzd		4. Pending CCC
Programs referencing this course	<u>CP ENG-BS: Computer Engineering BS</u> <u>CMP SC-BS: Computer Science BS</u>	^	Agenda post 5. CCC Meeting Agenda 6. Campus Curricula
Other Courses	In The Prerequisites:		Committee Chair
referencing this	COMP ENG 5170 : Real-Time Systems		7. FS Meeting
course	COMP SCI 3601 : Digital Forensics		Agenda
	COMP SCI 3610 : Computer Communications And Networks		<ol> <li>Faculty Senate Chair</li> </ol>
	COMP SCI 4601 : Computer Network Concepts And		9. Registrar
	Technology		<b>10.</b> CAT entry
	COMP SCI 5205 : Real-Time Systems		11. Peoplesoft
	COMP SCI 5600 : Computer Networks		11. reopieson
	COMP SCI 5800 : Distributed Computing		
	COMP SCI 5801 : The Structure Of Operating Systems		Approval Path
	COMP SCI 5802 : Introduction to Parallel Programming and		1. 03/08/19 1:35 pr
	Algorithms	~	Bruce McMillin
			(ff): Approved for
Requested	Fall 2019 <mark>08/14/2018</mark>		RCOMPSCI Chair 2. 03/12/19 11:13
Effective Change			am
Date			Brittany Parnell
Department	Computer Science		(ershenb):
Discipline	Computer Science (COMP SCI)		Approved for CC
	computer science (comp sci)		Secretary
Course Number	3800		3. 03/25/19 2:01 pr
Title	Introduction to Operating Systems		Stephen Raper
Abbreviated	Intro To Operating Syst		(sraper):
Course Title			Approved for Engineering DSC
Catalog			Chair
Description			4. 04/23/19 11:42
•	hes the concepts, structure, and mechanisms of Operating Systems.		am
	rocess management, concurrency, synchronization, deadlock,		Brittany Parnell
	memory management, scheduling, and internetworking. Special		(ershenb):
-	n to Unix and its modern-day derivatives.		Approved for

https://nextcatalog.mst.edu/courseleaf/courseleaf.cgi?page=/courseadmin/184/index.html&... 5/14/2019

Prerequisites A grade of "C" of Comp Eng <b>2210</b>		<b>h <del>all of</del> Comp Sci</b>	1575 <del>1575, Con</del>	<del>ip Sci 1200,</del> and		Pending CCC Agenda post 5. 05/09/19 11:18
Field Trip Statement Credit Hours Required for Majors Elective for Majors	LEC: 3 Yes No	LAB: 0	IND: 0	RSD: 0	Total: 3	am Brittany Parnell (ershenb): Approved for CCC Meeting Agenda 6. 05/09/19 1:22 pm Stephen Raper (sraper): Approved for Campus Curricula
		: the prereq knov cessful completic		Sci 1575 and Com	ıp	Committee Chair History 1. Jun 20, 2018 by
Semesters previously offered as an experimental course						tauritzd (184.1)
Co-Listed Courses:						
Course Reviewer Comments						
						Key: 184

		New Cou	arse Propos	al		In Workflow
Date Submitted: 03,	/27/19 6:44 ar	n				1. RCOMPSCI Chair
/iewing: COM	2. CCC Secretary					
ile: 4619						3. Engineering DSC
ast edit: 03/27/1.	9 10:23 am					Chair
Changes proposed b	oy: tauritzd					4. Pending CCC
Programs referencing this course	Agenda post 5. CCC Meeting Agenda 6. Campus Curricula					
Requested Effective Change Date	Fall 2019					Committee Chain 7. FS Meeting Agenda 8. Faculty Senate Chair
Department	Computer S	cience				9. Registrar
Discipline	Computer S	cience (COMP S	CI)			10. CAT entry 11. Peoplesoft
Course Number	4090					
Title	Software En	gineering Capsto	one l			Approval Path
Abbreviated Course Title	SE Capstone	51				1. 03/27/19 9:42 ar Bruce McMillin (ff): Approved for
Software Life Cyc	cle. Students w esign, prototyj . This course is	vill learn about s pe, implement, t s programming in	oftware enginee est, document, d	quence covering t ring, and work in deploy and maint emphasized and		<ul> <li>(II): Approved to RCOMPSCI Chair</li> <li>2. 03/28/19 3:51 pr Brittany Parnell (ershenb): Approved for CCI Secretary</li> <li>3. 04/15/19 10:37</li> </ul>
Prerequisites A grade of "C" or in one of Philos 3		•		, Comp Sci 3610, a	and	am Stephen Raper (sraper): Approved for
Field Trip Statement						Engineering DSC Chair
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	4. 04/23/19 11:43 am
Required for Majors	Yes					Brittany Parnell (ershenb): Approved for

Elective for No Majors	Pending CCC Agenda post
Justification for new course: This is the first course in the new Software Engineering Capstone sequence which is required for the revised BS in CS degree program (see DC form). This new sequence addresses concerns from stakeholders as well as accreditation feedback to ensure that all our students perform a major programming project, improve their technical writing skills, and expand their disciplinary application of ethics.	<ol> <li>5. 05/09/19 11:19         <ul> <li>am</li> <li>Brittany Parnell</li> <li>(ershenb):</li> <li>Approved for CCC</li> <li>Meeting Agenda</li> </ul> </li> <li>6. 05/09/19 1:22 pm         <ul> <li>Stephen Raper</li> </ul> </li> </ol>
Semesters previously offered as an experimental course This is a revamp of the existing Comp Sci 4096 capstone course. It is also a required course for the revised BS in CS degree program (see DC form), qualifying it for skipping the experimental phase.	(sraper): Approved for Campus Curricula Committee Chair
Co-Listed Courses:	
Course Reviewer Comments	
	Key: 4619 <u>Preview Bridge</u>

	New Course Proposal	In Workflow
Date Submitted: 03,	/27/19 6:45 am	1. RCOMPSCI Chai
/iewing: COMF	P SCI 4091 : Software Engineering Capstone II	2. CCC Secretary
ile: 4620		3. Engineering DSC
ast edit: 03/27/1	9 10:26 am	Chair
Changes proposed b	py: tauritzd	4. Pending CCC
_	CMP SC-BS: Computer Science BS	Agenda post
Programs referencing this		5. CCC Meeting Agenda
course		6. Campus Curricu
		Committee Cha
Desurente d	5-11 2010	7. FS Meeting
Requested Effective Change	Fall 2019	Agenda
Date		8. Faculty Senate Chair
Department	Computer Science	9. Registrar
	•	10. CAT entry
Discipline	Computer Science (COMP SCI)	11. Peoplesoft
Course Number	4091	
Title	Software Engineering Capstone II	Approval Path
Abbreviated	SE Capstone II	1. 03/27/19 9:42 a
Course Title		Bruce McMillin (ff): Approved f
Catalog	This is the second course in the Software Engineering Capstone sequence covering	RCOMPSCI Chai
Description	the Software Life Cycle. Students will learn about software engineering, and work in	2. 03/28/19 3:51 p
	teams to spec, design, prototype, implement, test, document, deploy and maintain a	Brittany Parnell
	software system. This course is programming intensive, writing emphasized and	(ershenb):
	addresses ethical considerations.	Approved for CO Secretary
Prerequisites	A grade of "C" or better in both Comp Sci 4090 and Comp Sci 4610.	3. 04/15/19 10:38
Field Trip		am
Statement		Stephen Raper
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	(sraper):
Required for	Yes	Approved for Engineering DS
Majors		Chair
Elective for	No	4. 04/23/19 11:44
Majors		am
Justification for	This is the second course in the new Software Engineering Capstone sequence which	Brittany Parnell
new course:	is required for the revised BS in CS degree program (see DC form). This new	(ershenb): Approved for
	sequence addresses concerns from stakeholders as well as accreditation feedback to	Pending CCC
	ensure that all our students perform a major programming project, improve their	Agenda post
	technical writing skills, and expand their disciplinary application of ethics.	5. 05/09/19 11:19
Semesters	This is a revamp of the existing Comp Sci 4097 capstone course. It is also a required	am
previously offered as an	course for the revised BS in CS degree program (see DC form), qualifying it for	Brittany Parnell

### COMP SCI 4091: Software Engineering Capstone II

experimental	(ershenb):
course	Approved for CCC
Co-Listed	Meeting Agenda
Courses:	6. 05/09/19 1:22 pm
	Stephen Raper
Course Reviewer	(sraper):
Comments	Approved for
Key: 46	20 Campus Curricula
	Committee Chair

	/29/19 3:31 pm		In Workflow
iewing: COMF	SCI 4610 <del>3600</del> : Introduction to Computer Security		1. RCOMPSCI Chair
le: 637.1			2. CCC Secretary
ast edit: 04/02/1	9 11:51 am		3. Engineering DSC
hanges proposed b	y: tauritzd		Chair
_	CMP SC-BS: Computer Science BS	~	4. Pending CCC
Programs			Agenda post
referencing this course			5. CCC Meeting
course		~	Agenda
			6. Campus Curricul
Requested	Spring 2020 <del>08/14/2018</del>		Committee Chai 7. FS Meeting
Effective Change			Agenda
Date			8. Faculty Senate
Department	Computer Science		Chair
Discipline	Computer Science (COMP SCI)		9. Registrar
' Course Number			10. CAT entry
Course Number	4610 <del>3600</del>		11. Peoplesoft
Title	Introduction to Computer Security		
Abbreviated	Intro-Computer Security		Approval Path
Course Title			1. 03/29/19 3:12 pr
Catalog	This course <b>covers principles of threat-modeling, trust, <del>encompasses threats</del> and</b>		Bruce McMillin
Description	vulnerabilities, trust and security policies. policies, and enforcement. Topics Specific		(ff): Rollback to
Description	topics include cryptography, reverse engineering, software access control, risk		Initiator
	management, systems and applications life cycle, physical security, malware		2. 03/29/19 3:32 pt
	analysis, authentication, access controls, operating systems hardening,		Bruce McMillin
	<b>virtualization, database <del>key management, transmission</del> security, and <b>network</b></b>		(ff): Approved fo RCOMPSCI Chair
	security. <del>cryptography.</del> This class is programming intensive and project based, with		3. 04/02/19 11:52
	case-analyses.		am
Prerequisites	A <b>grade of</b> "C" or better <del>grade</del> in <b>both</b> Comp Sci <b>2500 and Comp Sci 3610. <del>2500.</del></b>		Brittany Parnell
Field Trip			(ershenb):
Statement			Approved for CC
Credit Hours	LEC: <b>3</b> LAB: <b>0</b> IND: <b>0</b> RSD: <b>0</b> Total: <b>3</b>		Secretary
			4. 04/15/19 10:38
Required for	Yes <del>No</del>		am
Majors			Stephen Raper
Elective for	No		(sraper): Approved for
Majors			Engineering DSC
Justification for	In the revised BS in CS (see DC form), this course is adding the Comp Sci 3610 -		Chair
change:	Computer Networks (see CC form) as prereq, and consequently being moved to		5. 04/23/19 11:45
~	4000-level. The justification for computer networks as a prerequisite is that		am
	computer security requires so much networking knowledge, that a third of the class		Brittany Parnell
	is currently taken up with remedial material.		(ershenb):

Semesters previously offered as an experimental course Co-Listed Courses:		Pending CCC Agenda post 6. 05/09/19 11:19 am Brittany Parnell (ershenb): Approved for CCC Meeting Agenda
Course Reviewer Comments	ff (03/29/19 3:12 pm): Rollback: The justification for networks as a prerequisite is that computer security requires so much networking, 1/3 of the class is currently taken up with remedial material.	<ul> <li>7. 05/09/19 1:22 pm Stephen Raper (sraper): Approved for Campus Curricula Committee Chair</li> </ul>
		Preview Bridge

Date Submitted: 03	'07/19 10:20 am	
Viewing: <b>EDUC</b> File: 118.3 Last approved: 01 Last edit: 05/09/1 Changes proposed b	9 2:16 pm	In Workflow 1. REDUCATION Chair 2. CCC Secretary 3. Social Sciences DSCC Chair
Catalog Pages referencing this course Programs referencing this course	<u>Teacher Education and Certification</u> <u>PHYSIC-BS: Physics BS</u> <u>AP MATH-BS: Applied Mathematics BS</u>	<ul> <li>4. Pending CCC Agenda post</li> <li>5. CCC Meeting Agenda</li> <li>6. Campus Curricula Committee Chair</li> <li>7. FS Meeting Agenda</li> </ul>
Requested Effective Change Date Department	Spring 2020 <del>01/07/2019</del> Teacher Education and Certification	<ol> <li>Faculty Senate Chair</li> <li>Registrar</li> <li>CAT entry</li> <li>Peoplesoft</li> </ol>
Discipline	Education (EDUC)	Approval Path
Course Number	2102	1. 03/07/19 12:15
Title	Educational Psychology	pm
Abbreviated Course Title	Educational Psychology	Kelly Carter (carterke): Approved for
Catalog Description	Principles of psychology relevant to the field of education. Course covers theoretic and applied information on such topics as human growth and development, and cognitive and behavioral views of learning and intelligence. The course also covers motivation, creation of learning environments, measurement and evaluation of learning.	2. 03/07/19 2:55 pr
Prerequisites	Psych 1101. Must be a psychology major, or in the teacher education program.	Secretary
Field Trip Statement		3. 04/03/19 11:11 am
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	Barry Flachsbart (barryf):
Required for Majors	No	Approved for Social Sciences
Elective for Majors	No	DSCC Chair 4. 04/23/19 11:48 am
Justification for change:	We do not have enough faculty to offer more sections of the class. It closes every semester due to high enrollment. The majority of students are taking it as an elective. This prevents psychology majors and students in the teacher education program from being able to take the class.	Brittany Parnell (ershenb): Approved for

		Pending CCC
	This change needs to be made to both classes (psych 2300 and educ 2102).	Agenda post
Semesters		5. 05/09/19 2:16 pm
previously		Brittany Parnell
offered as an		(ershenb):
experimental		Approved for CCC
course		Meeting Agenda
		6. 05/09/19 3:30 pm
Co-Listed	PSYCH 2300 - Educational Psychology	Stephen Raper
Courses:		(sraper):
Course Reviewer	ershenb (05/09/19 2:16 pm): Removed "or have instructor's approval to take this	Approved for
Comments	class." from prerequisite.	Campus Curricula
comments		Committee Chair
	Key: 11	

#### History

1. Jan 18, 2019 by ershenb (118.1)

	/05/19 9:37 a					In Workflow		
/iewing: ELEC I	ENG 521	0 : Fourie	r Optics			1. RELECENG	Chair	
ile: 898.6						2. CCC Secretary 3. Engineering DSC		
ast approved: 06	/20/18 3:39	am						
ast edit: 04/19/1	9 9:33 am					Chair		
changes proposed b	y: sweetk					4. Pending CC	С	
Other Courses	In The Cata	Agenda pos						
referencing this	PHYSICS 55	5. CCC Meetin	g					
course						Agenda 6. Campus Cu	rricula	
						Committee		
						7. FS Meeting		
Requested	Fall 2019 <del>0</del>	<del>8/14/2018</del>				Agenda		
Effective Change Date						8. Faculty Sen	ate	
			•			Chair		
Department		nd Computer Eng	_			9. Registrar		
Discipline	Electrical Er	ngineering (ELEC	ENG)			10. CAT entry 11. Peoplesoft		
Course Number	5210							
Title	Fourier Opt	ics				Approval Pat	h	
Abbreviated	Fourier Opt	ics				1. 04/06/19 7		
Course Title						Daryl Beetn	er	
Catalog						(daryl): App	roved	
Description						for RELECEN	١G	
Applications of F	ourier analysi	s and linear syste	ems theory to op	tics. Topics inclu	de	Chair	.02	
scalar diffraction	-	-		-		2. 04/08/19 9 Brittany Par		
information proc	essing, and in	naging systems.				(ershenb):	nen	
Prerequisites						Approved for	or CCC	
Both Elec Eng 34	30 and Elec Ei	ng 3600 or <del>both</del> l	Physics <mark>2401 and</mark>	Physics 4211.		Secretary		
Field Trip						3. 04/19/19 9	:33 an	
Statement						Stephen Ra	per	
						(sraper):		
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	Approved for Engineering		
Required for	No	-	-	-		Chair	, DSCC	
Majors	NU					4. 04/23/19 1	1:49	
-	Vec No					am	-	
Elective for	Yes <del>No</del>					Brittany Par	nell	
Majors						(ershenb):		

	I.
Justification for	Pending CCC
change:	Agenda post
Physics 2401 is a prerequisite for Physics 4211. Listing Physics 2401 is redundant.	5. 05/09/19 2:17 pm
Semesters	Brittany Parnell
previously	(ershenb):
offered as an	Approved for CCC
	Meeting Agenda
experimental	6. 05/09/19 3:30 pm
course	Stephen Raper
	(sraper):
Co-Listed	Approved for
Courses:	Campus Curricula
PHYSICS 5503 - Fourier Optics	Committee Chair
Course Reviewer	
Comments	History
sraper (04/19/19 9:33 am): Elective for majors checked.	1. Jun 30, 2014 by
Key: 896	lahne (898.1)
	2. Jun 20, 2018 by
	sweetk (898.4)

Last approved: 06/29/15 3:51 am Last approved: 06/29/15 3:51 am Last edit: 04/13/19 5:42 pm Changes proposed by: barryf Programs referencing this course EIN TCH-MI: Minor in Financial Technology (FinTech) FINANCE-CI: Finance CT FINANCE-MI: Finance Minor EINANCE-MI: Finance Minor EINANCE-MI: Financial Technology CT FINANCE-MI: Financial Technology CT FINANCE-MI: Financial Mathematics course Course MATH 5737 : Financial Mathematics course Fall 2019 01/12/2016 Effective Change Department Business and Information Technology Department Business and Information Technology Approval Path Discipline Finance (FINANCE) Course Number 5160 Title Course Title Course	Date Submitted: 04	/13/19 5:42 p	m					
File: 2566.6 Last approved: 06/29/15 3:51 am Last edit: 04/13/19 5:42 pm Chaire 2. CCC Secretary 3. Social Sciences OSCC Chair 4. Pending CCC Agenda post 5. CCC Meeting Agenda 6. Campus Curricu Committee Chair 7. Film CCH-CT: Finance CT FINANCE-MI: Finance Minor Course In The Prerequisites: MATH 5737 : Financial Mathematics course Fill 2019 04/12/2016 The Course finance (FINANCE) Effective Change Date Department Business and Information Technology Finance (FINANCE) Title Course Number 5160 Title Course Fill Course Finance (FINANCE) Title Course Finance (FINANCE) Title Course Finance (FINANCE) Title Course Finance (FINANCE) Course Title Course Finance (FINANCE) Title Course Finance (FINANCE) Course Title Course Finance (FINANCE) Title Course Finance (FINANCE) Course Title Course Title Course Title Course Finance (FINANCE) Course Title Course Titl	Viewing: <b>FINA</b>							
Last approved: 06/29/15 3:51 am 2, CCC Secretary 2, Social Sciences DSC Chairs 4, Programs referencing this fint CH-CH: Finance II achology (FinTech) FinANCE-CI: Finance CI FIN TCH-CI: Finance FIN TCH-CI: Finance FIN TCH-CI: Finance FIN TCH-CI: FIN TCH-CI F	File: 2566.6							
Last edit: 04/13/19 5:42 pm Changes proposed by: barryf  Programs referencing this GUS&MS-85: Business and Mgmt Systems BS referencing this course  INTCH-CT: Finance T FINNCE-CT: Finance T FINNCE-CT: Financial Technology (FinTech) FINANCE-CT: Financial Technology (FinTech) FINANCE-CT: Financial Technology (FinTech) FINANCE-MI: Finance Minor  Other Courses In The Prerequisites: MATH 5/37 : Financial Mathematics course  Fall 2019 01/13/2016 Finance (FINANCE)  Date  Department Business and Information Technology Finance (FINANCE)  Course Number 5160 Title Corporate Finance II Abbreviated Corporate Finance II Abbreviated Corporate Finance II Abbreviated Corporate Finance II Abbreviated Corporate Finance II Course Title  Catalog Description This course provides a rigorous and consistent presentation of the theory of financial decisions. Capital markets are analyzed under assumptions of risk aversion and uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Modigliani-Miller analysis. Prerequisites Finance 2150 or equivalent basic corporate finance knowledge. Finance 2150.  Field Trip Statement	Last approved: 06/29/15 3:51 am							<ol> <li>CCC Secretary</li> <li>Social Sciences</li> </ol>
Charges proposed by: barryf Programs referencing this course INTCH-MI: Minor in Financial Technology (FinTech) FINTCH-CT: Finance CT FINANCE-CT: Finance CT FINTCH-CT: Finance Minor Other Courses Int The Prerequisites: MATH 5737 : Financial Mathematics course INTER-CT: Finance Minor Int The Prerequisites: MATH 5737 : Financial Mathematics Course INTER-CT: Finance Minor INTER-CT: Financial Mathematics Course INTER-CT: Finance Minor INTE	Last edit: 04/13/19 5:42 pm							
Programs referencing this course       FMITCH-ML: Minor in Financial Technology (FinTech) FINANCE-CT: Finance CT FINANCE-MI: Finance Minor       Agenda post FINANCE-MI: Finance Minor         Other Courses referencing this course       In The Prerequisites: MATH 5737 : Financial Mathematics       7. FS Meeting Agenda         Other Courses referencing this course       Fall 2019 01/12/2016       1. Ocharic MATH 5737 : Financial Mathematics         Course       Fall 2019 01/12/2016       1. Ocharic MATH 5737 : Financial Mathematics         Course       Fall 2019 01/12/2016         Department       Business and Information Technology         Discipline       Finance (FINANCE)         Course Number       5160         Title       Corporate Finance II         Abbreviated       Corporate Finance II         Course Title       2. Od/15/19 11:08 am         Catalog       Berittany Parnell (ershenb): Approved for C Secretary and uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Motigliani-Miller analysis.       3. Od/15/19 12:43 pm         Prerequisites       Finance 2150 or eruivalent basic corporate finance knowledge. Finance 2150.       Secretary Approved for Social Sciences DSCC Chair	Changes proposed							
Other Course referencing thisIn The Prerequisites: MATH 5737 : Financial Mathematics course7. F5 Meeting AgendaRequested Effective Change DateFall 2019 01/12/20168. Faculty Senate Chair9. RegistrarDepartmentBusiness and Information TechnologyApproval Path 1. PeoplesoftDisciplineFinance (FINANCE)1. 04/14/19 12:51 am siauk: Approved for RBUSADMN ChairCourse Number51601. 04/14/19 12:51 am siauk: Approved for RBUSADMN ChairAbbreviated Course TitleCorporate Finance II Course Title2. 04/15/19 11:08 am siauk: Approved for Chair Secretary and uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Motigliani-Miller analysis.3. 04/15/19 12:43 pmPrerequisites Finance 2150 or utivalent basic corporate finance knowledge. Finance 2150, Field Trip Statement5. Meeting Scale Scale Sca	referencing this	FIN TCH-MI: Minor in Financial Technology (FinTech) FINANCE-CT: Finance CT FIN TCH-CT: Financial Technology CT			5	Agenda post 5. CCC Meeting Agenda 6. Campus Curricula		
referencing this course MATH 5737 : Financial Mathematics course A faculty Senate Chair 9. Registrar 10. CAT entry 11. Peoplesoft 10. CAT entry 11. Peoplesoft 11. Peoplesoft 10. CAT entry 11. Peoplesoft 11. O4/14/19 12:51 10. O4/15/19 12:51 11. O4/15/19 12:51 11. O4/15/19 12:51 11. O4/15/19 12:51 11. O4/15/19 12:51 11. O4/15/19 12:51 11. O4/15/19 12:51 12. O4/15/19 12:51 12. O4/15/19 12:51 12. O4/15/19 12:51 13. O4/15/19 12:43 10.	Other Courses	In The Prei						7. FS Meeting
ControlChairRequested Effective Change DateFall 2019 01/12/2016Department DisciplineBusiness and Information TechnologyApproval PathDiscipline Course NumberFinance (FINANCE)1. 04/14/19 12:51 am siauk: Approved for RBUSADMNCourse Number Title51601. 04/14/19 12:51 am siauk: Approved for RBUSADMNAbbreviated Corporate Finance IICorporate Finance II ChairChair am siauk: Approved for RBUSADMN ChairCatalog DescriptionCorporate Finance II Financial decisions. Capital markets are analyzed under assumptions of risk aversion and uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Modigliani-Miller analysis.3. 04/15/19 12:43 pmPrerequisites Finance 2150 or equivalent basic corporate finance knowledge. Finance 2150.Barry Flachsbar (barryf): Approved for Social Sciences DSCC Chair	referencing this	<u>MATH 573</u>						Agenda
Requested Effective ChangeFall 2019 01/12/20169. Registrar 10. CAT entry 11. PeoplesoftDateBusiness and Information TechnologyApproval Path am siauk: ApprovedDisciplineFinance (FINANCE)1. 04/14/19 12:51 am siauk: ApprovedCourse Number5160am siauk: Approved for RBUSADMN ChairTitleCorporate Finance IIChair chairAbbreviatedCorporate Finance IIChair chairCourse Title2. 04/15/19 11:08 amam Brittany ParnelI (ershenb): amCatalog DescriptionThis course provies a rigorous and consistent presentation of the theory of financial decisions: Capital markets are analyzed under assumptions of risk aversion and uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Models of modern portfolio theory are discussed including the CAPM and the Models of modern portfolio theory are discussed including the finance 2150 - Evident basic corporate finance knowledge. Finance 2150.04/15/19 12:43 pmField Trip StatementSocial Sciences DSCC ChairSocial Sciences DSCC Chair							~	8. Faculty Senate
DisciplineFinance (FINANCE)1. 04/14/19 12:51 am siauk: Approved for RBUSADMNCourse Number5160am siauk: Approved for RBUSADMNTitleCorporate Finance IIChairAbbreviatedCorporate Finance IIChairCourse Title2. 04/15/19 11:08amCatalogamBrittany ParnelI (ershenb):This course provides a rigorous and consistent presentation of the theory of financial decisions. Capital markets are analyzed under assumptions of risk aversion and uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Modigliani-Miller analysis.3. 04/15/19 12:43 pmPrerequisitesBarry Flachsbar (barryf): Approved for Social Sciences DSCC ChairSocial Sciences DSCC Chair	Effective Change	Fall 2019 <del>0</del>	<del>1/12/2016</del>					<ol> <li>9. Registrar</li> <li>10. CAT entry</li> </ol>
Course Number5160amTitleCorporate Finance IIsiauk: Approved for RBUSADMN ChairAbbreviatedCorporate Finance IIChairCourse Title2. 04/15/19 11:08CatalogamDescriptionBrittany Parnell (ershenb):This course provides a rigorous and consistent presentation of the theory of financial decisions. Capital markets are analyzed under assumptions of risk aversion and uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Modigliani-Miller analysis.3. 04/15/19 12:43 pmPrerequisitesBarry Flachsbar (barryf): Approved for Social Sciences DSCC ChairBarry Flachsbar (barryf):	Department	Business ar	nd Information Te	echnology				Approval Path
Course Number5160siauk: ApprovedTitleCorporate Finance IIfor RBUSADMNAbbreviatedCorporate Finance IIChairCourse Title2.04/15/19 11:08CatalogamDescriptionBrittany ParnelIThis course provides a rigorous and consistent presentation of the theory of financial decisions. Capital markets are analyzed under assumptions of risk aversionBerry Plachsbarand uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Modigliani-Miller analysis.July 204/15/19 12:43PrerequisitesFinance 2150 or equivalent basic corporate finance knowledge. Finance 2150.Approved for Social Sciences DSCC Chair	Discipline	Finance (FI	NANCE)					1. 04/14/19 12:51
Title       Corporate Finance II       for RBUSADMN         Abbreviated       Corporate Finance II       Chair         Course Title       2. 04/15/19 11:08         Catalog       am         Catalog       Brittany Parnell         Description       Brittany Parnell         This course provides a rigorous and consistent presentation of the theory of       Approved for Consectary         financial decisions. Capital markets are analyzed under assumptions of risk aversion       Secretary         and uncertainty. Models of modern portfolio theory are discussed including the       3. 04/15/19 12:43         CAPM and the Modigliani-Miller analysis.       pm         Prerequisites       Barry Flachsbarr         Field Trip       Social Sciences         Statement       DSCC Chair	Course Number	5160						
Abbreviated Course TitleCorporate Finance II ChairChair ChairCourse Title2. 04/15/19 11:08 amCatalog DescriptionBrittany Parnell (ershenb):This course provides a rigorous and consistent presentation of the theory of financial decisions. Capital markets are analyzed under assumptions of risk aversionApproved for Cr Secretaryand uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Modigliani-Miller analysis.04/15/19 12:43 pmPrerequisites Finance 2150 or equivalent basic corporate finance knowledge. Finance 2150.Barry Flachsbar (barryf): Approved for Social Sciences DSCC Chair	Title	Corporate	Finance II					
Course Title2. 04/15/19 11:08CatalogamDescriptionBrittany Parnell (ershenb):This course provides a rigorous and consistent presentation of the theory of financial decisions. Capital markets are analyzed under assumptions of risk aversionApproved for Cr Secretaryand uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Modigliani-Miller analysis.3. 04/15/19 12:43 pmPrerequisitesBarry Flachsbar (barryf):Finance 2150 or equivalent basic corporate finance knowledge. Finance 2150.Approved for Social Sciences DSCC Chair	Abbroviated	-						
CatalogBrittany Parnell (ershenb):Description(ershenb):This course provides a rigorous and consistent presentation of the theory of financial decisions. Capital markets are analyzed under assumptions of risk aversionApproved for CL Secretaryand uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Modigliani-Miller analysis.3. 04/15/19 12:43 pmPrerequisites Finance 2150 or equivalent basic corporate finance knowledge. Finance 2150.Barry Flachsbar (barryf): Approved for Social Sciences DSCC Chair		corporater						2. 04/15/19 11:08
4. 04/23/19 11.37	Description This course provides a rigorous and consistent presentation of the theory of financial decisions. Capital markets are analyzed under assumptions of risk aversion and uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Modigliani-Miller analysis. Prerequisites Finance 2150 or equivalent basic corporate finance knowledge. Finance 2150. Field Trip							<ul> <li>Brittany Parnell (ershenb):</li> <li>Approved for CCC</li> <li>Secretary</li> <li>04/15/19 12:43</li> <li>pm</li> <li>Barry Flachsbart</li> <li>(barryf):</li> <li>Approved for</li> <li>Social Sciences</li> <li>DSCC Chair</li> </ul>
Credit Hours LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3 am	Credit Hours	I FC· 3	AR· N		RSD: 0	Total: 3		

https://nextcatalog.mst.edu/courseleaf/courseleaf.cgi?page=/courseadmin/2566/index.html... 5/14/2019

		Key: 2566
Course Reviewer Comments		2. Jun 29, 2015 by barryf (2566.3)
		lahne (2566.1)
Courses:		<b>1.</b> Apr 25, 2014 by
Co-Listed		History
course		
experimental		Committee Chair
offered as an		Campus Curricula
previously		Approved for
Semesters		(sraper):
undergrads, FIN	2150 continues to be appropriate.	6. 05/09/19 3:30 pm Stephen Raper
•	eded, even if the specific course has not been taken. For	Meeting Agenda
	our course on corporate finance (2150). This clarifies that the	Approved for CCC
-	students have not come through our undergraduate program and	(ershenb):
change:		Brittany Parnell
Justification for		5. 05/09/19 2:17 pm
Majors		Agenda post
Elective for	Yes	Approved for Pending CCC
Majors		(ershenb):
Required for	No	Brittany Parnell

Date Submitted: 04/13/19 5:43 pm

## Viewing: FINANCE 5260 : Investments I

File: 2190.8 Last approved: 06/29/15 3:51 am Last edit: 04/13/19 5:43 pm Changes proposed by: barryf

2	BUS&MS-BS: Business and Mgmt Systems BS
Programs	FIN TCH-MI: Minor in Financial Technology (FinTech)
referencing this	PROPOSED: test
course	FINANCE-CT: Finance CT
	FIN TCH-CT: Financial Technology CT
	FINANCE-MI: Finance Minor

Requested Effective Change Date	Fall 2019 <del>01/12/2016</del>
Department	Business and Information Technology
Discipline	Finance (FINANCE)
Course Number	5260
Title	Investments I
Abbreviated Course Title	Investments I

#### Catalog

Description

Introduction to fundamental elements of investment analysis. Students learn financial tools and gain necessary knowledge to select among alternative financial assets. Real world experience includes stock analysis, portfolio simulations and interactions with professionals in the securities industry.

#### Prerequisites

Finance 2150 or equivalent basic corporate finance knowledge. Finance 2150.

LAB: 0

#### Field Trip Statement

Credit Hours

## Required for Majors

LEC: 3

No

In Workflow 1. RBUSADMN Chair 2. CCC Secretary 3. Social Sciences **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. 04/14/19 12:51 am siauk: Approved for **RBUSADMN** Chair 2. 04/15/19 11:09 am **Brittany Parnell** (ershenb): Approved for CCC Secretary 3. 04/15/19 12:43 pm Barry Flachsbart (barryf): Approved for Social Sciences **DSCC Chair** 

#### 4. 04/23/19 11:59 am

RSD: 0

Total: 3

IND: 0

Elective for Yes Majors	Brittany Parnell (ershenb):
Justification for change: Most graduate students have not come through our undergraduate program and have not taken our course on corporate finance (2150). This clarifies that the knowledge is needed, even if the specific course has not been taken. For undergrads, FIN 2150 continues to be appropriate. Semesters previously offered as an experimental course	Approved for Pending CCC Agenda post 5. 05/09/19 2:18 pm Brittany Parnell (ershenb): Approved for CCC Meeting Agenda 6. 05/09/19 3:30 pm Stephen Raper (sraper): Approved for Campus Curricula Committee Chair
Courses:	History
Course Reviewer Comments	, 1. May 1, 2014 by barryf (2190.1)
Key: 2190	2. Jun 29, 2015 by barryf (2190.5)

Date Submitted: 03	/05/19 5:02 pm			
/iewing: GEO E	NG 3249 : Fundamentals Of Computer Applications In	In Workflow <b>1. RGEOSENG Chair</b>		
Geological Engineering				
ile: 1781.1		2. CCC Secretary 3. Engineering DSC		
-iie: 1781.1 .ast edit: 03/25/1	0.2.02 nm	Chair		
Changes proposed l		4. Pending CCC		
		Agenda post		
Programs referencing this	GE ENG-BS: Geological Engineering BS	5. CCC Meeting Agenda		
course		6. Campus Curricula		
		Committee Chair		
		7. FS Meeting		
Requested	Spring 2020 <del>08/01/2014</del>	Agenda 8. Faculty Senate		
Effective Change Date		Chair		
		9. Registrar		
Department	Geosciences and Geological and Petroleum	10. CAT entry		
	Engineering	11. Peoplesoft		
Discipline	Geological Engineering (GEO ENG)			
Course Number	3249	Approval Path		
Title	Fundamentals Of Computer Applications In Geological Engineering	1. 03/05/19 5:03 pr		
Abbreviated	Fund Of Comp Appl Ge Eng	David Borrok		
Course Title		(borrokd):		
Calaba		Approved for RGEOSENG Chair		
Catalog Description	Applications of existing and available software packages utilizing a variety of hardware systems for geological engineering purposes. Emphasis on practical	2. 03/06/19 8:55 an		
Description	utilization of <b>software <del>personal computers</del> and network operations for graphical</b>	Brittany Parnell		
	analysis of geologic data, mapping of surface and subsurface configurations and	(ershenb):		
	modeling of geologic processes.	Approved for CCC		
Prerequisites	Geo Eng <b>1150. <del>1150, Comp Sci 1970, 1980.</del></b>	Secretary		
Field Trip		3. 03/25/19 2:02 pr		
Statement		Stephen Raper (sraper):		
		Approved for		
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3	Engineering DSCO		
Required for	Yes <del>No</del>	Chair		
Majors		4. 04/23/19 12:28		
Elective for	No	pm		
Majors		Brittany Parnell (ershenb):		
Justification for	This course will now include introductory programming, so a programming course is	Approved for		
change:	no longer required as a prerequisite.	Pending CCC		
Semesters		Agenda post		
previously		5. 05/09/19 2:18 pr		
offered as an		Brittany Parnell		
		(ershenb):		

experimental course		Approved for CCC Meeting Agenda
Co-Listed Courses:		6. 05/09/19 3:30 pm Stephen Raper (sraper):
Course Reviewer Comments	sraper (03/25/19 2:02 pm): Changed. to required for majors.	Approved for Campus Curricula Committee Chair
	Key: 1783	

Date Submitted: 03,	05/19 5:05 pm						
/iewing: GEO E	NG 5381 : Intermediate Subsurface Hydrology And	In Workflow 1. RGEOSENG Chai					
<b>Contaminant Transport Mechs</b> File: 1052.1 Last edit: 05/09/19 2:19 pm							
					Changes proposed b	y: grotekr	4. Pending CCC
					_	GE ENG-BS: Geological Engineering BS	Agenda post 5. CCC Meeting
Programs referencing this	GEO ENG-MS: GEOLOGICAL ENGINEERING MS	Agenda					
course		6. Campus Curricul					
		Committee Chai					
Requested	Spring 2020 <del>08/14/2018</del>	7. FS Meeting Agenda					
Effective Change	Shime 1970 00/14/2010	8. Faculty Senate					
Date		Chair					
Department	Geosciences and Geological and Petroleum	9. Registrar					
	Engineering	10. CAT entry 11. Peoplesoft					
Discipline	Geological Engineering (GEO ENG)						
Course Number	5381	Approval Path					
Title	Intermediate Subsurface Hydrology And Contaminant Transport Mechs	1. 03/06/19 8:55 ar					
Abbreviated	Int Subsurface Hydrology	David Borrok					
Course Title		(borrokd):					
Catalog	A study of the physical/chemical properties of rocks and sediments in the subsurface	Approved for RGEOSENG Chair					
Description	environment. Emphasis is put on waterrock properties such as permeability,	2. 03/06/19 9:21 ar					
·	capillarity, and mechanical dispersion. Both microscopic and macroscopic	Brittany Parnell					
	approaches are used.	(ershenb): Approved for CC					
Prerequisites	Geo Eng 5331, Geo <del>Civ</del> Eng 5332, or Geol 4411. <del>3330 &amp; Geo Eng 5331.</del>	Secretary					
Field Trip		3. 03/25/19 2:03 pr					
Statement		Stephen Raper					
Credit Hours	LEC: <b>3</b> LAB: <b>0</b> IND: <b>0</b> RSD: <b>0</b> Total: <b>3</b>	(sraper): Approved for					
Required for Majors	No	Engineering DSCO Chair					
Elective for	Yes <del>No</del>	4. 04/23/19 12:28					
Majors		pm					
Justification for	These prerequisites better reflect what is needed to master the material covered in	Brittany Parnell (ershenb):					
change:	this course.	Approved for					
Semesters		Pending CCC					
previously		Agenda post 5. 05/09/19 2:19 pr					
offered as an experimental		Brittany Parnell					
course		(ershenb):					

Co-Listed Courses:		Approved for CCC Meeting Agenda
Course Reviewer Comments	sraper (03/25/19 2:03 pm): checked elective for majors and modified prereqs according to DSCC member. ershenb (05/09/19 2:19 pm): checked "yes" elective for majors.	6. 05/09/19 3:30 pm Stephen Raper (sraper): Approved for
	Key: 1052	Campus Curricula Committee Chair

#### Date Submitted: 04/05/19 3:19 pm In Workflow viewing: MIL AIR 1110 : Foundations Of The U.S. Air Force Heritage and 1. RMILISCI Chair Values I 2. CCC Secretary 3. Krista Chambers File: 1532.1 4. Pending CCC Last edit: 04/09/19 10:38 am Agenda post Changes proposed by: ungerb 5. CCC Meeting In The Catalog Description: Agenda **Other Courses** MIL AIR 1120 : Foundations Of The U.S. Air Force II 6. Campus Curricula referencing this **Committee Chair** course 7. FS Meeting Agenda Requested Spring 2020 08/01/2014 8. Faculty Senate Chair **Effective Change** 9. Registrar Date 10. CAT entry Department Aerospace Studies - Air Force ROTC 11. Peoplesoft Military Science - Air Force (MIL AIR) Discipline Course Number 1110 **Approval Path** 1. 04/05/19 3:42 pm Title Foundations Of The U.S. Air Force Heritage and Values I Brent Unger Abbreviated Heritage and Values I Found (ungerb): U.S.Air Force I Course Title Approved for **RMILISCI** Chair Catalog This survey course provides an introduction is designed to the Air Force, hopefully 2. 04/09/19 11:21 Description encouraging introduce students to pursue an AF career or at least seek additional am information to be better informed about the role of the USAF. the Air Force and Brittany Parnell ROTC. Topics include: The course allows students military customs and courtesies, (ershenb): uniform wear, officership qualities, professionalism, Air Force core values, equal Approved for CCC opportunity and treatment, officer benefits and opportunities and an introduction Secretary to examine general aspects of the Department of the Air Force, AF Leadership, Air 3. 04/09/19 11:59 Force benefits, and opportunities for AF officers. communication skills. Leadership am Lab is mandatory for cadets planning on a career in the Air Force. Krista Chambers Prerequisites (krista): Approved Field Trip for krista Statement 4. 04/23/19 1:22 pm **Brittany Parnell Credit Hours** LEC: 1 LAB: 0 IND: 0 RSD: 0 Total: 1 (ershenb): Required for No Approved for Majors Pending CCC Elective for No Agenda post 5. 05/09/19 2:21 pm Majors Brittany Parnell Justification for HQ AFROTC/DE (Curriculum Division) has revised the course titles and course (ershenb): curriculum that all 145 Air Force ROTC Detachments in the country are now required change: Approved for CCC to teach. The revised catalog description above comes verbatim from HQ Meeting Agenda AFROTC/DE and reflects those curriculum changes.

https://nextcatalog.mst.edu/courseleaf/courseleaf.cgi?page=/courseadmin/1532/index.html... 5/14/2019

	v/r BRENT J. UNGER, Lt Col, USAF Commander, AFROTC Det 442 Missouri Univ of Science & Tech 206 Harris Hall, 500 W. 13th St. Rolla, MO 65409-1450 Phone: 573-341-6540 Fax: 573-341-6541 Email: ungerb@mst.edu Web: afrotc.mst.edu	6.	05/09/19 3:30 pm Stephen Raper (sraper): Approved for Campus Curricula Committee Chair
Semesters previously offered as an experimental course			
Co-Listed Courses:			
Course Reviewer Comments	ershenb (04/09/19 10:38 am): Per the email request Lt. Col Unger, added "I" to the course title and change the effective date to SP2020.		
			Key: 1532

Date Submitted: 04	4/05/19 3:20 p	m					
Viewing: MIL A	AIR 1120	: Foundat	ions Of Tł	<del>e U.S.</del> Air I	Force	١n \	Workflow
Heritage and Values II					RMILISCI Chair		
•		5 11					CCC Secretary Krista Chambers
File: 1390.1							Pending CCC
Last edit: 04/09/							Agenda post
Changes proposed	by: ungerb						CCC Meeting
Requested	Spring 202	<mark>0 <del>08/01/201</del>4</mark>					Agenda
Effective Change							Campus Curricula
Date							Committee Chair
Department	Aerospace	Studies - Air Ford	e ROTC			7.	FS Meeting
Discipline	Military Sci	ence - Air Force (	(MILAIR)				Agenda
Course Number	-		× ,				Faculty Senate
Course Number	1120						Chair
Title	Foundatior	<del>is Of The U.S.</del> Air	Force <b>Heritage a</b>	nd Values II			Registrar CAT entry
Abbreviated	Heritage a	nd Values II <del>Foun</del>	<del>id</del>				Peoplesoft
Course Title	U.S.Air For	<del>se II</del>				11.	reopieson
Catalog						Ар	proval Path
Description					1.	04/05/19 3:43 pm	
This course provides an introduction to the Air Force, hopefully encouraging						Brent Unger	
		er or at least se					(ungerb):
				e is a continuatior		Approved for	
				s to examine gen	eral		RMILISCI Chair
		ent Air Force, mi	_				04/09/19 11:21
	• • • •	inization of a star		enents, and skills developme	unt .	am Brittany Parna	
Leadership Lab			- communication	rskins developme	inc.		Brittany Parnell (ershenb):
							Approved for CCC
Prerequisites							Secretary
							04/09/19 11:59
Field Trip							am
Statement							Krista Chambers
							(krista): Approved
Credit Hours	LEC: <b>1</b>	LAB: <b>0</b>	IND: <b>0</b>	RSD: 0	Total: 1		for krista
Required for	No						04/23/19 1:22 pm
Majors							Brittany Parnell
Elective for	No						(ershenb):
Majors							Approved for
							Pending CCC
							Agenda post

#### MIL AIR 1120: Air Force Heritage and Values II

Justification for

change:

HQ AFROTC/DE (Curriculum Division) has revised the course titles and course curriculum that all 145 Air Force ROTC Detachments in the country are now required to teach. The revised catalog description above comes verbatim from HQ AFROTC/DE and reflects those curriculum changes.

v/r

BRENT J. UNGER, Lt Col, USAF Commander, AFROTC Det 442 Missouri Univ of Science & Tech 206 Harris Hall, 500 W. 13th St. Rolla, MO 65409-1450 Phone: 573-341-6540 Fax: 573-341-6541 Email: ungerb@mst.edu Web: afrotc.mst.edu Semesters previously offered as an experimental course Co-Listed Courses: ershenb (04/09/19 10:39 am): Per the email request Lt. Col Unger, added "II" to the **Course Reviewer** Comments course title and changed the effective date to SP2020.

5. 05/09/19 2:21 pm Brittany Parnell (ershenb): Approved for CCC Meeting Agenda

6. 05/09/19 3:30 pm Stephen Raper (sraper): Approved for Campus Curricula Committee Chair

Key: 1390

Date Submitted: 04	05/19 3:25 pm	
Viewing: MIL A	IR 2110 : Team and Leadership Fundamental	Is I The
Evolution O	f USAF Air And Space Power I	1. RMILISCI Chair 2. CCC Secretary
File: 418.1		3. Krista Chambers
Last edit: 04/09/1	9 10:43 am	4. Pending CCC
Changes proposed I		Agenda post
	In The Catalog Description:	5. CCC Meeting
Other Courses	MIL AIR 2120 : The Evolution Of USAF Air And Space Power II	Agenda 6. Campus Curricula
referencing this		Committee Chair
course		7. FS Meeting
		Agenda
Requested	Spring 2020 <del>08/01/2014</del>	8. Faculty Senate
Effective Change		Chair
Date		9. Registrar 10. CAT entry
Department	Aerospace Studies - Air Force ROTC	10. CAT entry 11. Peoplesoft
Discipline	Military Science - Air Force (MIL AIR)	
Course Number	2110	Approval Path
Title	Team and Leadership Fundamentals I The Evolution Of USAF Air And	1. 04/05/19 3:43 pm
	Space Power I	Brent Unger
Abbreviated	Ldrshp Fundamentals I <del>Evol</del>	(ungerb):
Course Title	USAF Air & Sp Pwr I	Approved for
	•	RMILISCI Chair
Catalog	This course is designed to provide a fundamental understanding examin	
Description	general aspects of both leadership air and team building. space power the historical perspectivecovering a time period from the first balloons to the space power t	
	beginning of the space age. It is imperative that cadets are taught from t	
	beginning that there are many layers to leadership, including aspects th	
	always jump to mind. Such things include listening, understanding them	
	being a good follower and problem solving. It provides students with a k	mowledge 3. 04/09/19 11:59
	level understanding of the general elements and employment of air and s	
	power from an institutional doctrinal and historical perspective.Examples	<i>u</i>
	importance of AF core values in historical events and in past AF leaders a out.Continued development of communication skills is also emphasized.L	
	Lab is mandatory for cadets planning on a career in the Air Force.	4. 04/23/19 1:22 pm
Prerequisites		Brittany Parnell
		(ershenb):
Field Trip Statement		Approved for Pending CCC
		Agonda nost
Credit Hours	LEC: <b>1</b> LAB: <b>0</b> IND: <b>0</b> RSD: <b>0</b> Total: <b>1</b>	5. 05/09/19 2:21 pm
Required for Majors	Νο	Brittany Parnell (ershenb):
Elective for Majors	Νο	Approved for CCC Meeting Agenda

#### MIL AIR 2110: Team and Leadership Fundamentals I

Justification for change:	HQ AFROTC/DE (Curriculum Division) has revised the course titles and course curriculum that all 145 Air Force ROTC Detachments in the country are now required to teach. The revised catalog description above comes verbatim from HQ AFROTC/DE and reflects those curriculum changes. v/r	<ul> <li>6. 05/09/19 3:31 pm</li> <li>Stephen Raper</li> <li>(sraper):</li> <li>Approved for</li> <li>Campus Curricula</li> <li>Committee Chair</li> </ul>
	BRENT J. UNGER, Lt Col, USAF Commander, AFROTC Det 442 Missouri Univ of Science & Tech 206 Harris Hall, 500 W. 13th St. Rolla, MO 65409-1450 Phone: 573-341-6540 Fax: 573-341-6541 Email: ungerb@mst.edu	
Semesters	Web: afrotc.mst.edu	
previously		
offered as an		
experimental		
course		
Co-Listed		
Courses:		
Course Reviewer Comments	ershenb (04/09/19 10:43 am): Per the email request Lt. Col Unger, added "I" to the course title and changed the effective date to SP2020.	
		Key: 418

Date Submitted: 04	/05/19 3:27 p	m					March 1		
Viewing: MIL A	IR 2120	: Team an	nd Leaders	hip Funda	mentals II		Workflow		
The Evoluti	- Evelution Of UCAE Ain And Cross Devices U						1. RMILISCI Chair 2. CCC Secretary		
File: 1092.1							Krista Chambers		
	0 10 17 am						Pending CCC		
Last edit: 04/09/1							Agenda post		
Changes proposed	by: ungerb					5.	CCC Meeting		
Requested	Spring 2020	<b>0 <del>08/01/201</del>4</b>					Agenda		
Effective Change						6.	Campus Curricula		
Date							Committee Chair		
Department	Aerospace	Studies - Air Ford	ce ROTC			7.	FS Meeting		
Discipline	Military Sci	ence - Air Force (	(MIL AIR)				Agenda		
Course Number	2120		-			8.	Faculty Senate		
						0	Chair		
Title		-	amentals II <del>The I</del>	Evolution Of USA	F Air And		Registrar CAT entry		
	Space Powe	<del>er II</del>					Peoplesoft		
Abbreviated	Ldrshp Fun	damentals II <del>Eve</del>	H			·			
Course Title	USAF Air&S	<del>p Pwr II</del>				٨	oproval Path		
Catalog							•		
Description						1.	04/05/19 3:43 pn Brent Unger		
	signed to pro	vide a fundamer	ntal understandii	ng <del>continuation</del> c	of		(ungerb):		
				ve that cadets ar			Approved for		
taught from the	beginning that	at there are man	y layers to leade	ership, including			RMILISCI Chair		
aspects that dor	n't always jum	p to mind. Such	things include li	stening,		2.	04/09/19 11:21		
understanding t	hemselves, be	eing a good follo	wer and problen	n solving. <del>It cove</del>	<del>rs a</del>		am		
•			-	e age in the early			Brittany Parnell		
			-	ng how past lead	<del>ers</del>		(ershenb):		
			organization and				Approved for CCC		
		exercises are co	ntinued.Leaders	hip Lab is also			Secretary		
mandatory for c	adets.					3.	04/09/19 12:00		
Prerequisites							pm Kriste Chambers		
							Krista Chambers (krista): Approved		
Field Trip							for krista		
Statement						4.	04/23/19 1:22 pn		
							Brittany Parnell		
Credit Hours	LEC: <b>1</b>	LAB: <b>0</b>	IND: <b>0</b>	RSD: <b>0</b>	Total: 1		(ershenb):		
Required for	No						Approved for		
							Pending CCC		
Majors							r enuing cee		

Missouri Univ of Science & Tech 206 Harris Hall, 500 W. 13th St.

Rolla, MO 65409-1450 Phone: 573-341-6540 Fax: 573-341-6541 Email: ungerb@mst.edu Web: afrotc.mst.edu

Semesters previously offered as an experimental course

Co-Listed Courses:

Elective for Majors	5. 05/09/19 2:21 pm Brittany Parnell (ershenb):
Justification for change: HQ AFROTC/DE (Curriculum Division) has revised the course titles and course curriculum that all 145 Air Force ROTC Detachments in the country are now required to teach. The revised catalog description above comes verbatim from HQ AFROTC/DE and reflects those curriculum changes. v/r	Approved for CCC Meeting Agenda 6. 05/09/19 3:31 pm Stephen Raper (sraper): Approved for Campus Curricula Committee Chair
BRENT J. UNGER, Lt Col, USAF Commander, AFROTC Det 442	

Course Reviewerershenb (04/09/19 10:47 am): Per the email request Lt. Col Unger, added "II" to theCommentscourse title and changed the effective date to SP2020.

Key: 1092

Date Submitted: 04/05/19 3:30 pm

# Viewing: MIL AIR 3110 : Leading People & Effective

#### **Communication I Air Force Leadership Studies I**

File: 419.1 Last edit: 04/09/19 10:49 am Changes proposed by: ungerb

Programs referencing this course	<u>CMP SC-BS: Computer Science BS</u> <u>MC ENG-BS: Mechanical Engineering BS</u>
Other Courses	In The Catalog Description:
referencing this	MIL AIR 3120 : Air Force Leadership Studies II
course	

Requested Effective Change Date	Spring 2020 <del>08/01/2014</del>
Department	Aerospace Studies - Air Force ROTC
Discipline	Military Science - Air Force (MIL AIR)
Course Number	3110
Title	Leading People & Effective Communication I Air Force Leadership Studies I
Abbreviated	Effective Comm I <del>Air Force</del>
Course Title	<del>Ldrshp Stu I</del>

#### Catalog

Description

This course is designed includes a Leadership Lab that provides the students the opportunity to build on the apply-leadership fundamentals taught in AS200. and management principles. Cadets will have This course introduces students to the opportunity to utilize their leadership and management skills as they begin more required of a leadership role in the detachment. an Air Force junior officer. The goal is for cadets to have a more in-depth understanding of how to effectively lead people, and provide them with the tools to use in their leadership roles. Special topics include leadership ethics, the Air Force personnel and evaluation systems, and management fundamentals. Through the use of classroom tools that include case studies, Air Force leadership and management situations are examined and practical applications of studies concepts are exercised. The principles and theories

In Workflow 1. RMILISCI Chair 2. CCC Secretary 3. Krista Chambers 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. 04/05/19 3:44 pm **Brent Unger** (ungerb): Approved for **RMILISCI Chair** Ð 2. 04/09/19 11:21 am **Brittany Parnell** (ershenb): Approved for CCC Secretary 3. 04/09/19 12:00 pm Krista Chambers (krista): Approved for krista 4. 04/23/19 1:22 pm **Brittany Parnell** (ershenb): Approved for Pending CCC

Agenda post

responsibility and	havior as well as the complete understanding of the individual y and authority of an Air Force officer are stressed.This course includes Lab that provides the students the opportunity to apply leadership and t principles.					<ul> <li>5. 05/09/19 2:22 pm Brittany Parnell (ershenb): Approved for CCC Meeting Agenda</li> <li>6. 05/09/19 3:31 pm Stephen Raper (sraper): Approved for Campus Curricula</li> </ul>
Credit Hours	LEC: <b>3</b>	LAB: <b>0</b>	IND: <b>0</b>	RSD: <b>0</b>	Total: <b>3</b>	Committee Chair
Required for Majors	No					
Elective for Majors	No					
Justification for change:	curriculum that to teach. The re	t all 145 Air Fo evised catalog d reflects thos R, Lt Col, USA FROTC Det 44 of Science & To , 500 W. 13th 09-1450 1-6540 541 @mst.edu	orce ROTC Detac description abc e curriculum ch F 2 ech	ve comes verbat	untry are now requi	red
Semesters previously offered as an experimental course						
Co-Listed Courses:						
Course Reviewer Comments			<ul> <li>Per the email</li> <li>effective date t</li> </ul>		Jnger, added "I" to t	he Key: 419

Date Submitted: 04/05/19 3:32 pm

# Viewing: MIL AIR 3120 : Leading People & Effective

## **Communication II Air Force Leadership Studies II**

File: 1093.1 Last edit: 04/09/19 10:50 am Changes proposed by: ungerb

Programs referencing this	CMP SC-BS: Computer Science BS MC ENG-BS: Mechanical Engineering BS
course	

Requested Effective Change Date	Spring 2020 08/01/2014
Department	Aerospace Studies - Air Force ROTC
Discipline	Military Science - Air Force (MIL AIR)
Course Number	3120
Title	Leading People & Effective Communication II Air Force Leadership Studies II
Abbreviated	Effective Comm II <del>Air Force</del>
Course Title	Ldrshp Stu II

Catalog

Description

This course is a continuation of Mil Air 3110.Emphasis is placed on professional knowledge, communication skills, and ethical behavior.Varied Air Force peculiar formats and situations are offered to apply learned listening, writing, and speaking skills. This course is designed includes a Leadership Lab that provides the students the opportunity to build on the apply-leadership fundamentals taught in AS200. and management principles. Cadets will have the opportunity to utilize their skills as they begin more of a leadership role in the detachment. The goal is for cadets to have a more in-depth understanding of how to effectively lead people, and provide them with the tools to use in their leadership roles.

Prerequisites

Field Trip Statement



4. 04/23/19 1:22 pm

Brittany Parnell (ershenb):

Approved for

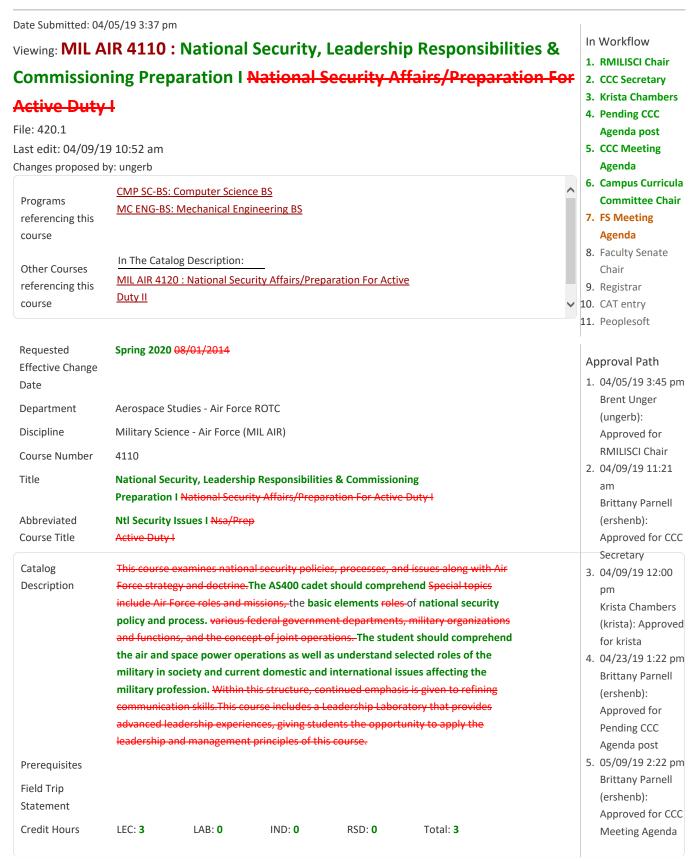
Pending CCC Agenda post

Credit Hours	LEC: <b>3</b>	LAB: <b>0</b>	IND: <b>0</b>	RSD: <b>0</b>	Total: 3	5. 05/09/19 2:22 pm
Required for	No					Brittany Parnell (ershenb):
Majors						Approved for CCC
Elective for	No					Meeting Agenda
Majors						6. 05/09/19 3:31 pm
Justification for						Stephen Raper
change:						(sraper):
HQ AFROTC/DE (		ion) has revised	the course title	c and course		Approved for
, , ,		,			• • • • •	Campus Curricula
curriculum that a				, ,	Ired	Committee Chair
to teach. The rev	ised catalog des	cription above c	omes verbatim	from HQ		
AFROTC/DE and	reflects those cu	rriculum change	s.			

v/r

BRENT J. UNGER, Lt Col, USAF Commander, AFROTC Det 442 Missouri Univ of Science & Tech 206 Harris Hall, 500 W. 13th St. Rolla, MO 65409-1450 Phone: 573-341-6540 Fax: 573-341-6541 Email: ungerb@mst.edu Web: afrotc.mst.edu Semesters previously offered as an experimental course Co-Listed Courses: **Course Reviewer** ershenb (04/09/19 10:50 am): Per the email request Lt. Col Unger, added "II" to the course title and changed the effective date to SP2020. Comments Key: 1093

Key: 109



Required for Majors	No	6. 05/09/19 3:31 pm Stephen Raper
Elective for Majors	Νο	(sraper): Approved for Campus Curricula
Justification for change:	HQ AFROTC/DE (Curriculum Division) has revised the course titles and course curriculum that all 145 Air Force ROTC Detachments in the country are now required to teach. The revised catalog description above comes verbatim from HQ AFROTC/DE and reflects those curriculum changes.	Committee Chair
	v/r	
	BRENT J. UNGER, Lt Col, USAF Commander, AFROTC Det 442 Missouri Univ of Science & Tech 206 Harris Hall, 500 W. 13th St. Rolla, MO 65409-1450 Phone: 573-341-6540 Fax: 573-341-6541 Email: ungerb@mst.edu Web: afrotc.mst.edu	
Semesters previously offered as an experimental course		
Co-Listed Courses:		
Course Reviewer	ershenb (04/09/19 10:52 am): Per the email request Lt. Col Unger, added "I" to the course title and changed the effective date to SP2020.	

Date Submitted: 04/	05/19 3:39 pm			
Viewing: MIL A	In Workflow			
Responsibili	ties & Commissioning Preparation II National	1. RMILISCI Chair 2. CCC Secretary		
-		3. Krista Chambers		
Security Aff:	airs/Preparation For Active Duty II	4. Pending CCC		
File: 748.1		Agenda post		
Last edit: 04/09/19	9 10:53 am	5. CCC Meeting		
Changes proposed b	y: ungerb	Agenda		
Deserves	EL ENG-BS: Electrical Engineering BS	6. Campus Curricula Committee Chair		
Programs referencing this	Programs CMP SC-BS: Computer Science BS			
course	MC ENG-BS: Mechanical Engineering BS	7. FS Meeting Agenda		
course		8. Faculty Senate		
		Chair		
Requested	Spring 2020 <del>08/01/2014</del>	9. Registrar		
Effective Change		10. CAT entry		
Date		11. Peoplesoft		
Department	Aerospace Studies - Air Force ROTC			
Discipline	Military Science - Air Force (MIL AIR)	Approval Path		
Course Number	4120	1. 04/05/19 3:45 pm		
Title	National Security, Leadership Responsibilities & Commissioning	Brent Unger		
Inte	Preparation II National Security Affairs/Preparation For Active Duty II	(ungerb):		
		Approved for		
Abbreviated Course Title	Ntl Security Issues II Nsa/Prep Active Duty II	RMILISCI Chair 2. 04/09/19 11:21		
		am		
Catalog		Brittany Parnell		
Description		(ershenb):		
The AS400 cadet	should comprehend the basic elements of national security policy	Approved for CCC		

and process. Continuation of Mil Air 4110. The student should comprehend This final course of the air Air Force ROTC curriculum examines officership, advanced leadership ethics, military law, current Air Force issues, regional studies, core values, and space power operations as well as understand selected roles of the military in society and current domestic and international issues affecting the military profession. preparation for active duty. This course includes a Leadership Laboratory that provides leadership experiences, giving students the opportunity to apply the leadership and management principles of this course.

Prerequisites

Field Trip Statement Secretary

for krista

pm

3. 04/09/19 12:01

Krista Chambers

(krista): Approved

4. 04/23/19 1:22 pm

Brittany Parnell (ershenb):

Approved for Pending CCC

Agenda post

Credit Hours Required for Majors Elective for Majors	LEC: <b>3</b> No No	LAB: <b>0</b>	IND: <b>0</b>	RSD: <b>0</b>	Total: <b>3</b>	<ul> <li>5. 05/09/19 2:22 pm Brittany Parnell (ershenb): Approved for CCC Meeting Agenda</li> <li>6. 05/09/19 3:31 pm Stephen Raper</li> </ul>
Justification for change: HQ AFROTC/DE	(Curriculum Di	vision) has revise	d the course title	es and course		(sraper): Approved for Campus Curricula Committee Chair
		ce ROTC Detachm lescription above			iired	

v/r

AFROTC/DE and reflects those curriculum changes.

BRENT J. UNGER, Lt Col, USAF
Commander, AFROTC Det 442
Missouri Univ of Science & Tech
206 Harris Hall, 500 W. 13th St.
Rolla, MO 65409-1450
Phone: 573-341-6540
Fax: 573-341-6541
Email: ungerb@mst.edu
Web: afrotc.mst.edu
Semesters
previously
offered as an
experimental
course
Co-Listed
Courses:
Course Reviewer ershenb (04/09/19 10:53 am): Per the email request Lt. Col Unger, added "II" to the
Comments course title and changed the effective date to SP2020.

Key: 748

Date Submitted: 03,	/22/19 11:56	am				10 \4/2-1-61		
Viewing: NUC E	ENG 457	7 <del>3377 :</del> N	luclear Fo	rensics and	d	In Workflow		
Radiochemi	istrv					1. NUC ENG Chair 2. CCC Secretary		
	JULY					3. Engineering DSCC		
File: 4087.3	120/442.55					Chair		
ast approved: 06		am				4. Pending CCC		
Last edit: 03/28/1 Changes proposed b	•					Agenda post		
	-					5. CCC Meeting		
Requested	Fall 2019 <del>()</del>	<del>8/01/2014</del>				Agenda		
Effective Change						6. Campus Curricula		
Date						Committee Chair 7. FS Meeting		
Department	Mining & N	luclear Engineeri	ng			Agenda		
Discipline	Nuclear En	gineering (NUC E	NG)			8. Faculty Senate		
Course Number	4577 <del>3377</del>					Chair		
Title	Nuclear Fo	rensics and Radio	ochemistry			9. Registrar		
Abbreviated		ic & Rad Chem	,,			10. CAT entry		
Course Title	Nuc Forens	ic & Rad Chem				11. Peoplesoft		
Catalog						Approval Path		
Description						1. 03/20/19 4:02 pm		
Learn the fundan		-				Hyoung-Koo Lee		
Nuclear Forensic					2	(leehk): Approved		
origin of the cher techniques inclue						for NUC ENG Chair		
forensics field an			iu review of the	modern nuclear		2. 03/22/19 11:50		
						am		
Prerequisites	C 210E rocom	amondod				Brittany Parnell		
Nuc Eng NUC EN		imenueu.				(ershenb):		
Field Trip						Rollback to		
Statement n/a						Initiator		
						3. 03/22/19 1:41 pm		
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	Hyoung-Koo Lee		
Required for	No					(leehk): Approved for NUC ENG		
Majors						Chair		
Elective for	Yes					4. 03/28/19 3:49 pm		
Majors						Brittany Parnell		
Justification for						(ershenb):		
change:						Approved for CCC		
change.						Secretary		

This course is suitable for undergraduate seniors and we want to create a graduate version of this course which is dual-listed as Nuc Eng 5577. The course number Nuc Eng 4577 is a better description of the current course. Semesters previously offered as an experimental course Spring 2012, Spring 2013, Spring 2014, Fall 2016, Fall 2018 2014 Co-Listed Courses:	<ul> <li>5. 04/15/19 10:21 <ul> <li>am</li> <li>Stephen Raper</li> <li>(sraper):</li> <li>Approved for</li> <li>Engineering DSCC</li> <li>Chair</li> </ul> </li> <li>6. 04/23/19 1:23 pm <ul> <li>Brittany Parnell</li> <li>(ershenb):</li> <li>Approved for</li> <li>Pending CCC</li> </ul> </li> </ul>
Course Reviewer Comments ershenb (03/22/19 11:50 am): Rollback: Rolled back per the request of Dr. Alajo for a number change	Agenda post 7. 05/09/19 2:23 pm Brittany Parnell (ershenb): Approved for CCC
Key: 4087	Meeting Agenda 8. 05/09/19 3:31 pm Stephen Raper (sraper): Approved for

History

 Jun 30, 2014 by Carlos Henry Castano (castanoc)

Campus Curricula Committee Chair

	New Course Proposal	In Workflow
Date Submitted: 03/	27/19 2:54 pm	1. NUC ENG Chair
Viewing: NUC E	NG 5577 : Advanced Nuclear Forensics and	2. CCC Secretary
Radiochemi	stry	3. Engineering DSCC Chair
File: 4623		4. Pending CCC
Last edit: 05/09/19		Agenda post
Changes proposed b	y: castanoc	5. CCC Meeting
Requested	Fall 2019	Agenda 6. Campus Curricula
Effective Change Date		Committee Chair
		7. FS Meeting
Department	Mining & Nuclear Engineering	Agenda
Discipline	Nuclear Engineering (NUC ENG)	8. Faculty Senate
Course Number	5577	Chair 9. Registrar
Title	Advanced Nuclear Forensics and Radiochemistry	10. CAT entry
Abbreviated Course Title	Adv Nuc Foren & RadChem	11. Peoplesoft
Catalog	Fundamentals of radiochemistry, including nuclear science, cosmochemistry, spent	Approval Path
Description	fuel reprocessing, with details on solvent extraction. We will review case studies in Nuclear Forensics. This advanced section also includes experiments on radiochemistry and demonstrate experimental nuclear forensics techniques. Dual listed with Nuc Eng 4577.	1. 03/22/19 1:41 pn Hyoung-Koo Lee (leehk): Approved for NUC ENG Chair
Prerequisites		2. 03/26/19 2:54 pr
Field Trip Statement		Brittany Parnell (ershenb):
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	Rollback to
Required for Majors	Yes	Initiator 3. 03/28/19 12:50
Elective for Majors	Νο	pm Hyoung-Koo Lee (leehk): Approved for NUC ENG
Justification for new course:	We are creating a graduate certificate in Nuclear Non-Proliferation	Chair 4. 03/28/19 3:50 pr
Semesters previously offered as an		Brittany Parnell (ershenb): Approved for CCC
experimental course		Secretary 5. 04/15/19 10:23
Co-Listed		am
Courses:		Stephen Raper (sraper):
		Approved for

Course Reviewer	ershenb (03/26/19 2:54 pm): Rollback: Per email with Dr. Alajo, NUC 5577 needs to	Er	ngineering DSCC
Comments	have "advanced" in the title with an accompanying course description (needs to	Cl	hair
	differentiate with an advanced application against NUC ENG 4577(3377).	6. 04	4/23/19 1:23 pm
	sraper (04/15/19 10:23 am): as this is a grad certificate course and not a degree, no	Bi	rittany Parnell
	need for required for majors.	(e	ershenb):
	ershenb (05/09/19 2:24 pm): checked "yes" required for majors.	A	pproved for
	Key: 4623	P	ending CCC
		A	genda post
		7. 0!	5/09/19 2:25 pm
		Br	rittany Parnell
		(e	ershenb):
		A	pproved for CCC
		N	leeting Agenda
		8. 0!	5/09/19 3:31 pm
		St	tephen Raper
		(s	sraper):
		A	pproved for
		Ca	ampus Curricula
		Cr	ommittee Chair
		I	
			Preview Bridge

Date Submitted: 03/	New Experimental Course Proposal	In Workflow
		1. RCOMPSCI Chair
	SCI 5001.003 : Game Theory for Computing	2. CCC Secretary
File: 4596		3. Engineering DSCO
Last edit: 04/23/19 Changes proposed b		4. Pending CCC
	Fall 2019	Agenda post
Requested Effective Change	Fall 2019	5. CCC Meeting
Date		Agenda
Department	Computer Science	6. Campus Curricula Committee Chair
Discipline	Computer Science (COMP SCI)	7. CAT entry
Course Number	5001	8. Registrar
Topic ID	003	Approval Path
Experimental Title	Game Theory for Computing	1. 03/11/19 2:43 am
		Bruce McMillin (ff): Approved for
Experimental Abbreviated	Game Theory for CS	RCOMPSCI Chair
Course Title		2. 03/12/19 11:14
Instructors	Venkata Nadendla	am
		Brittany Parnell (ershenb):
Experimental	This course introduces the mathematical and computational foundations of game	Approved for CCC
Catalog	theory, and its applications in computer science. Topics include rationality, non- cooperative (such as adversarial) games, dynamic games (temporal dynamics),	Secretary
Description	Bayesian games (information asymmetry), and cooperative game theory (alliances	3. 03/25/19 2:01 pr
	and strategic teaming).	Stephen Raper
Prerequisites	A grade of "C" or better in both Comp Sci 2500 and Math 3108, and in one of Stat	(sraper): Approved for
	3113, Stat 3115, Stat 3117, or Stat 5643.	Engineering DSCC
Field Trip		Chair
Statement		4. 04/23/19 11:46
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	am Dritterus Derreell
		Brittany Parnell (ershenb):
Justification for new course:	Game theory is quickly gaining significance in modeling strategic interactions between competing entities in various real-world applications such as cyber-	Approved for
new course.	security, robotics and networking. This course fills a void in the CS department's	Pending CCC
	offerings to cover this important field.	Agenda post
Semester(s)	None	5. 05/09/19 4:15 pn
previously taught		Brittany Parnell (ershenb):
Co-Listed		Approved for CCC
Courses:		Meeting Agenda
Course Reviewer		6. 05/10/19 7:33 an
Comments		Stephen Raper (sraper):
	Key: 459	
		Campus Curricula
		Committee Chair

7. 05/10/19 10:47

am Marita Tibbetts (tibbettsmg): Approved for CAT entry

Data Submittade 02	New Experimental Course Proposal	In Workflow
Date Submitted: 03/		1. RCOMPSCI Chair
-	SCI 5001.004 : Introduction to Virtual Reality	2. CCC Secretary
-ile: 4598		3. Engineering DSCC
ast edit: 04/23/19 Changes proposed b	•	Chair 4. Pending CCC
		Agenda post
Requested Effective Change Date	Fall 2019	5. CCC Meeting Agenda
Department	Computer Science	6. Campus Curricula Committee Chair
Discipline	Computer Science (COMP SCI)	7. CAT entry
Course Number	5001	8. Registrar
Topic ID	004	
		Approval Path
Experimental Title	Introduction to Virtual Reality	1. 03/11/19 2:44 am Bruce McMillin
Experimental	Intro to Virtual Reality	(ff): Approved for
Abbreviated		RCOMPSCI Chair
Course Title		2. 03/12/19 11:16
Instructors	Chaman Sabharwal	am Brittany Parnell
Experimental	Covers virtual reality fundamentals: user interface (parameter pane, construction	(ershenb):
Catalog	pane, network panes), application design facets (networks of nodes, navigation of	Approved for CCC
Description	networks for design and interactive visualization exploiting geometric	Secretary 3. 03/25/19 2:01 pm
	transformations, digital assets, lights, cameras, animation), and simple applications	Stephen Raper
	to particles, dynamics, and fluids.	(sraper):
Prerequisites	A grade of "C" or better in both Comp Sci 3200 and Math 3108.	Approved for
Field Trip		Engineering DSCC Chair
Statement		4. 04/23/19 11:47
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	am
Justification for	Virtual Reality (VR) is becoming increasingly popular for real-world use in everything	Brittany Parnell
new course:	ranging from entertainment to emergency & military personnel training to	(ershenb): Approved for
	telemedicine. This course fills a void in the CS curriculum to provide the technical foundation for building future VR systems.	Pending CCC
	5 ,	Agenda post
Semester(s) previously taught	None	5. 05/09/19 4:16 pm
		Brittany Parnell (ershenb):
Co-Listed Courses:		Approved for CCC
		Meeting Agenda
Course Reviewer Comments		6. 05/10/19 7:33 am
comments	Key: 4598	Stephen Raper (sraper):
		Approved for
		Campus Curricula
		Committee Chair

7. 05/10/19 10:47

am Marita Tibbetts (tibbettsmg): Approved for CAT entry

)ato Submittade Oa	New Experimental Course Proposal	In Workflow
ate Submitted: 03,		1. RCOMPSCI Chair
-	PSCI 6001.003 : Algorithmic Game Theory	2. CCC Secretary
ile: 4597 ast edit: 04/23/1	0.1-20 pm	3. Engineering DSCC Chair
hanges proposed k		4. Pending CCC
Requested	Fall 2019	Agenda post
Effective Change		5. CCC Meeting Agenda
Date		6. Campus Curricula
Department	Computer Science	Committee Chair
Discipline	Computer Science (COMP SCI)	7. CAT entry 8. Registrar
Course Number	6001	o. Registral
Topic ID	003	Approval Path
Experimental	Algorithmic Game Theory	1. 03/11/19 2:44 am
Title		Bruce McMillin
Experimental	Algorithmic Game Theory	(ff): Approved for RCOMPSCI Chair
Abbreviated Course Title		2. 03/12/19 11:18
Instructors	Venkata Nadendla	am
		Brittany Parnell (ershenb):
Experimental Catalog	This course covers aggregation of social preferences and mechanism design, with emphasis on computational complexity/efficiency and robustness in the context of	Approved for CCC
Description	real-world applications. Case studies on wireless spectrum auctions, matching	Secretary
	markets, network routing, and security applications will be presented. Students will	3. 03/25/19 2:01 pm Stephen Raper
	conduct a major term project.	(sraper):
Prerequisites	A grade of "C" or better in Comp Sci 5200 and in one of Comp Sci 5400, Comp Sci	Approved for
	5401, or Comp Sci 5001 - Game Theory for Computing.	Engineering DSCC
Field Trip Statement		Chair 4. 04/23/19 11:47
	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	am
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	Brittany Parnell
Justification for	Algorithmic Game Theory is increasingly employed to design mechanisms under	(ershenb): Approved for
new course:	complex (potentially adversarial) interactions in various real-world application domains such as economics, cyber security, and critical infrastructure protection.	Pending CCC
	This course fills a void in the CS department's offering to cover this important field.	Agenda post
Semester(s)	None	5. 05/09/19 4:16 pn
previously taught		Brittany Parnell (ershenb):
Co-Listed		Approved for CCC
Courses:		Meeting Agenda
Course Reviewer		6. 05/10/19 7:33 am Stephen Raper
Comments		(sraper):
		Approved for
		Campus Curricula

7. 05/10/19 10:51

am Marita Tibbetts (tibbettsmg): Approved for CAT entry

Date Submitted: 02/	New Experimental Course Proposal	In Workflow
	SCI 6001.004 : Introduction to Quantum Computing	1. RCOMPSCI Chair 2. CCC Secretary
-ile: 4595		3. Engineering DSCC
Last edit: 04/23/1	9 1:40 pm	Chair
Changes proposed b	y: tauritzd	4. Pending CCC
Requested Effective Change	Fall 2019	Agenda post 5. CCC Meeting Agenda
Date		6. Campus Curricula
Department	Computer Science	Committee Chair
Discipline	Computer Science (COMP SCI)	7. CAT entry 8. Registrar
Course Number	6001	
Topic ID	004	Approval Path
Experimental Title	Introduction to Quantum Computing	1. 03/04/19 5:04 pm Bruce McMillin
Experimental Abbreviated Course Title	Quantum Computing	(ff): Approved for RCOMPSCI Chair 2. 03/05/19 8:15 am
Instructors	George Markowsky	Brittany Parnell (ershenb):
Experimental Catalog Description	This course provides an introduction to the emerging field of quantum computation. The course will cover such topics as complex numbers and Hilbert space, basic quantum mechanics, quantum gates, Deutsch's algorithm, Shor's algorithm, Grover's algorithm, quantum programming, theoretical foundations of quantum computing, and open problems in quantum computing.	Approved for CCC Secretary 3. 03/25/19 2:01 pm Stephen Raper (sraper): Approved for
Prerequisites	A grade of "C" or better in Comp Sci 5200.	Engineering DSCC
Field Trip		Chair
Statement		4. 04/23/19 11:48
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	am Brittany Parnell
Justification for new course:	Quantum computing is a very significant area of research in computer science at the present time, and has the potential to revolutionize the field. It is important that we offer students the possibility of learning about this emerging field.	(ershenb): Approved for Pending CCC Agenda post
Semester(s) previously taught	None	5. 05/09/19 4:17 pn Brittany Parnell
Co-Listed Courses:		(ershenb): Approved for CCC
Course Reviewer Comments		Meeting Agenda 6. 05/10/19 7:33 an Stephen Raper
	Key: 4595	(sraper): Approved for Campus Curricula Committee Chair 7. 05/10/19 10:51 am

Marita Tibbetts (tibbettsmg): Approved for CAT entry

Date Submitted: 03,	New Experimental Course Proposal	In Workflow
		1. RGEOSENG Chair
-	HYS 6001.001 : Advanced Geophysical Data Analysis	2. CCC Secretary
File: 4622		3. Sciences DSCC
ast edit: 04/23/1	•	Chair 4. Pending CCC
Changes proposed b		Agenda post
Requested	Summer 2019	5. CCC Meeting
Effective Change		Agenda
Date		6. Campus Curricula
Department	Geosciences and Geological and Petroleum	Committee Chair
	Engineering	7. CAT entry
Discipline	Geophysics (GEOPHYS)	8. Registrar
Course Number	6001	Approval Path
Topic ID	001	1. 03/18/19 1:59 pr
Experimental	Advanced Geophysical Data Analysis	David Borrok
Title		(borrokd):
Experimental	Adv Geophys Data Analys	Approved for
Abbreviated		RGEOSENG Chair
Course Title		2. 03/22/19 2:51 pr
Instructors	Kelly Liu	Brittany Parnell
		(ershenb): Approved for CCC
Experimental	Applications of advanced time series and spatial series analysis techniques to	Secretary
Catalog	geophysical data. Topics covered include digitization and aliasing of geophysical	3. 04/08/19 12:22
Description	signals, frequency and wavenumber spectra, digital filtering and linear systems theory. Hands-on data processing exercises will provide theoretical knowledge as	pm
	applied to geophysical investigations	Katie Shannon
2		(shannonk):
Prerequisites	Comp Sci 1970 and Comp Sci 1980 or equivalents.	Approved for
Field Trip		Sciences DSCC
Statement		Chair
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	4. 04/23/19 12:30 pm
lustification for	This course will teach the fundamental knowledge of data analysis to provide the	Brittany Parnell
Justification for new course:	This course will teach the fundamental knowledge of data analysis to provide the foundation to the students for advanced real-world data-driven discovery.	(ershenb):
		Approved for
Semester(s)	Summer, 2019	Pending CCC
previously taught		Agenda post
Co-Listed		5. 05/09/19 4:18 pr
Courses:		Brittany Parnell (ershenb):
Course Reviewer		Approved for CCC
Comments		Meeting Agenda
	Key: 4622	6. 05/10/19 7:33 ar
		Stephen Raper
		(sraper):
		Approved for
		Campus Curricula
		Committee Chair

7. 05/10/19 10:53

am Marita Tibbetts (tibbettsmg): Approved for CAT entry

Date Submitted: 04		v Experimer	ital Course	Proposal		In Workflow
Viewing: MATI			luction to	Einite Fle	ment	1. RMATHEMA
Methods File: 4626	1 3001.0					Chair 2. CCC Secretary 3. Sciences DSCC Chair
Last edit: 04/23/1 Changes proposed	-					4. Pending CCC Agenda post
Requested Effective Change Date	Fall 2019					<ol> <li>5. CCC Meeting Agenda</li> <li>6. Campus Curricula</li> </ol>
Department	Mathemati	cs & Statistics				Committee Chair 7. CAT entry
Discipline	Mathemati	cs (MATH)				8. Registrar
Course Number	5001					
Topic ID	002					Approval Path
Experimental Title	Introductio	n to Finite Eleme	nt Methods			1. 04/04/19 11:25 am sclark: Approved
Experimental Abbreviated Course Title	Intro to FEI	М				for RMATHEMA Chair 2. 04/04/19 6:31 pm
Instructors	Xiaoming H	le				Brittany Parnell
differential equa	itions. Constru element inter	-	nentation of fini	-	sic	(ershenb): Approved for CCC Secretary 3. 04/15/19 3:35 pm Katie Shannon (shannonk): Approved for Sciences DSCC
Prerequisites Any instructor a component.	pproved 4000	or higher level co	ourse with a sign	ificant computati	onal	Chair 4. 04/23/19 1:22 pm Brittany Parnell (ershenb):
Field Trip Statement						Approved for Pending CCC Agenda post
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	5. 05/09/19 4:18 pm
						Brittany Parnell (ershenb):

#### MATH 5001.002: Introduction to Finite Element Methods

Approved for CCC Justification for new course: Meeting Agenda Our previous finite elements course, Math 6602, was proving an insufficient 6. 05/10/19 7:34 am introduction to the topic, especially for non-majors. This 5000-level course is Stephen Raper intended to provide a far less theoretical introduction for both non-majors and (sraper): majors alike. We anticipate that this new course may lead to changes in the existing Approved for 6000-level course to allow us to increase the amount of theory covered at the 6000-Campus Curricula level, since the 5000-level is far less theoretical. **Committee Chair** 7. 05/10/19 10:54 Semester(s) am previously taught Marita Tibbetts (tibbettsmg): Co-Listed Approved for CAT Courses: entry **Course Reviewer** Comments Key: 4626 Preview Bridge

Data Submittade 04	New Experimental Course Proposal	In Workflow
Date Submitted: 04/		1. RMATHEMA
-	6001.006 : Numerical Analysis in Computational Fluid Dynamics	Chair
File: 4632		2. CCC Secretary 3. Sciences DSCC
Last edit: 04/24/19 Changes proposed b		Chair
		4. Pending CCC
Requested Effective Change	Fall 2019	Agenda post
Date		5. CCC Meeting
Department	Mathematics & Statistics	Agenda 6. Campus Curricula
Discipline	Mathematics (MATH)	Committee Chair
		7. CAT entry
Course Number	6001	8. Registrar
Topic ID	006	
Experimental	Numerical Analysis in Computational Fluid Dynamics	Approval Path
Title		1. 04/16/19 2:24 pm
Experimental	Num Analysis in CFD	sclark: Approved for RMATHEMA
Abbreviated Course Title		Chair
	Nan liang	2. 04/16/19 3:39 pm
Instructors	Nan Jiang	Brittany Parnell
Experimental	Numerical analysis in finite element computational fluid dynamics. Topics include	(ershenb): Approved for CCC
Catalog	continuous inf-sup condition and its discrete analogue, stability of the discrete	Secretary
Description	pressure, properties of the solutions, time-stepping schemes, and stability and convergence of the finite element methods for the time-dependent Navier-Stokes	3. 04/23/19 3:53 pm
	equations.	Katie Shannon
Prerequisites	Math 5325.	(shannonk):
		Approved for Sciences DSCC
Field Trip Statement		Chair
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	4. 04/24/19 9:43 am
credit flours		Brittany Parnell
Justification for	This course leverages the expertise of our faculty to grow our graduate offerings in	(ershenb): Approved for
new course:	an expanding area of mathematics.	Pending CCC
Semester(s)	None	Agenda post
previously taught		5. 05/09/19 4:18 pm
Co-Listed		Brittany Parnell
Courses:		(ershenb): Approved for CCC
Course Reviewer		Meeting Agenda
Comments		6. 05/10/19 7:34 am
	Key: 4632	Stephen Raper
		(sraper): Approved for
		Campus Curricula
		Committee Chair
		7. 05/10/19 12:22
		pm

Marita Tibbetts (tibbettsmg): Approved for CAT entry

Date Submitted: 04/05/19 11:45 am

### Viewing: PET ENG 3320 : Petrophysics

File: 4189.4 Last approved: 10/16/17 3:27 am Last edit: 04/08/19 8:14 am Changes proposed by: reflori

Programs referencing this course

PE ENG-BS: Petroleum Engineering BS

Requested Effective Change Date	Fall 2019 <del>08/17/2015</del>
Department	Geosciences and Geological and Petroleum Engineering
Discipline	Petroleum Engineering (PET ENG)
Course Number	3320
Title	Petrophysics
Abbreviated	Petrophysics

Catalog

Description

Course Title

**Properties** Fundamental properties of petroleum reservoir rocks, including lithology, porosity, absolute permeability, pore surface area, relative and effective permeability, fluid saturations, rock wettability, capillary characteristics, acoustic properties, and electrical properties. Darcy's law for single phase linear horizontal, horizontal and tilted and flow and radial flow.

#### Prerequisites

Preceded or accompanied by both Pet Eng 2510 and Physics 1135.

LAB: 1

### Field Trip

Statement

### Credit Hours

Required for Yes Majors

No

LEC: 2



- 1. RGEOSENG 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

- 04/05/18 5:55 pm David Borrok (borrokd):
   Approved for RGEOSENG Chair
   04/06/18 2:25 pm
- Brittany Parnell (ershenb): Rollback to Initiator
- 04/06/19 3:45 pm David Borrok (borrokd): Approved for RGEOSENG Chair
- 4. 04/08/19 8:14 am Brittany Parnell (ershenb): Approved for CCC Secretary

RSD: 0

Total: 3

IND: 0

Elective for	5. 04/19/19 9:33 am
Majors	Stephen Raper
Justification for change: When this course was created the old reservoir engineering (core) lab Pet Eng 3529 was blended into this course. These labs are now performed as part of Pet Eng 3320. Pet Eng 3529 included the communications component aspect for the degree. Hence Pet Eng 3320 should have been designated as communications emphasis. This submission is only for that change. Semesters previously	<ul> <li>(sraper): Approved for Engineering DSCC Chair</li> <li>04/23/19 1:23 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post</li> </ul>
offered as an experimental course None. This is a required course. Co-Listed Courses:	<ol> <li>7. 05/09/19 2:26 pm Brittany Parnell (ershenb): Approved for CCC Meeting Agenda</li> <li>8. 05/09/19 3:31 pm Stephen Raper</li> </ol>
Course Reviewer Comments ershenb (04/06/18 11:10 am): removed "Communication emphasis" from catalog description per the request of Dr Shari Dunn-Norman. ershenb (04/06/18 2:25 pm): Rollback: Rollback per the request of Dr. Shari Dunn- Norman	(sraper): Approved for Campus Curricula Committee Chair History
Key: 4189	1. Oct 16, 2017 by reflori

Data Submittad: 02	/20/10 10.51	200					
Date Submitted: 03			aaina			In Workflow	
Viewing: <b>PET E</b>	NG 3330	J: Well LO	gging			1. RGEOSENG Ch	
Last approved: 06/22/15 3:46 am						2. CCC Secretary	
						3. Engineering D	
Last edit: 04/02/1	-					Chair	
Changes proposed	ɔy: reflori					4. Pending CCC Agenda post	
Programs	<u>PE ENG-BS</u>	PE ENG-BS: Petroleum Engineering BS					
referencing this	GE ENG-BS: Geological Engineering BS					5. CCC Meeting	
course	<u>GL&amp;GPH-B</u>	S: Geology and G	ieophysics BS			Agenda 6. Campus Currio	
						Committee Ch	
Other Courses	In The Prei					7. FS Meeting	
referencing this	PET ENG 44	441 : Well Stimul	ation			Agenda	
course						<ul> <li>8. Faculty Senate</li> </ul>	
						Chair	
Requested	Spring 202	<b>0</b> <del>08/17/2015</del>				9. Registrar	
Effective Change						10. CAT entry	
Date						11. Peoplesoft	
Department		es and Geological	and Petroleum			Approval Path	
	Engineering	g				1. 03/29/19 11:3	
Discipline	Petroleum	Engineering (PET	ENG)			am	
Course Number	3330					David Borrok	
Title	Well Loggir	ng				(borrokd):	
Abbreviated						Approved for	
Course Title	Well Loggir	lg				RGEOSENG Ch	
Course fille						2. 04/02/19 1:58	
Catalog						Brittany Parne (ershenb):	
Description						Approved for (	
An introduction	to the electric	cal, nuclear, and a	acoustic properti	es of rocks: theor	У	Secretary	
and interpretation	on of convent	ional well logs.				3. 04/15/19 10:2	
Prerequisites						am	
Physics 2135 or 2	2111; Pet Eng	3320. <del>3520.</del>				Stephen Raper	
Field Trip						(sraper):	
Statement						Approved for	
						Engineering D	
Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0	Total: 3	Chair	
						4. 04/23/19 1:23	
Required for	Yes					Brittany Parne (ershenb):	
Majors						(ersnenb):	

https://nextcatalog.mst.edu/courseleaf/courseleaf.cgi?page=/courseadmin/1045/index.html... 5/14/2019

Elective for No	Approved for
Majors	Pending CCC
Justification for change: Pet Eng 3320 is a new course on Petrophysics designed to precede Well Logging.	Agenda post 5. 05/09/19 2:26 pm Brittany Parnell (ershenb):
Semesters previously	Approved for CCC Meeting Agenda
offered as an experimental	6. 05/09/19 3:31 pm Stephen Raper
course	(sraper): Approved for
Co-Listed Courses:	Campus Curricula Committee Chair
Course Reviewer	History
Comments	1. Jun 22, 2015 by
Key: 1045	reflori (1045.1)

In Workflow

1. RGEOSENG Chair

3. Engineering DSCC

2. CCC Secretary

## **Course Change Request**

Date Submitted: 03/29/19 10:53 am
Viewing: PET ENG 3520 : Petroleum Reservoir Engineering

File: 2614.1 Last edit: 04/15/19 10:27 am Changes proposed by: reflori

Changes proposed b	by: reflori		Chair
Programs referencing this course Other Courses referencing this course	·		<ul> <li>4. Pending CCC Agenda post</li> <li>5. CCC Meeting Agenda</li> <li>6. Campus Curricula Committee Chair</li> <li>7. FS Meeting Agenda</li> <li>8. Faculty Senate</li> </ul>
	PET ENG 4410 : Well Performance and Production Systems         PET ENG 4431 : Well Completion Design         PET ENG 4441 : Well Stimulation         PET ENG 4511 : Applied Petroleum Reservoir Engineering         PET ENG 4520 : Well Test Analysis	1	Chair 9. Registrar 10. CAT entry 11. Peoplesoft
	PET ENG 4531 : Natural Gas Engineering         PET ENG 4590 : Petroleum Economics and Asset Valuation         PET ENG 4611 : Secondary Recovery Of Petroleum         PET ENG 4621 : Fundamentals Of Petroleum Reservoir         Simulation         PET ENG 4631 : Applied Reservoir Simulation         PET ENG 4710 : Finite Element Analysis with Applications in         Petroleum Engineering         PET ENG 6431 : Advanced Well Completion Design         PET ENG 6441 : Advanced Well Stimulation         PET ENG 6521 : Advanced Reservoir Engineering II		Approval Path 1. 03/29/19 11:37 am David Borrok (borrokd): Approved for RGEOSENG Chair 2. 04/02/19 2:03 pm Brittany Parnell (ershenb): Approved for CCC Secretary
Requested Effective Change Date Department	Spring 2020 08/14/2018 Geosciences and Geological and Petroleum Engineering		3. 04/15/19 10:27 am Stephen Raper (sraper): Approved for Engineering DSCC Chair
Discipline	Petroleum Engineering (PET ENG)		4. 04/23/19 1:24 pm
Course Number	3520		Brittany Parnell
Title	Petroleum Reservoir Engineering		(ershenb): Approved for
Abbreviated Course Title	Petr Reservoir Engr		Pending CCC Agenda post 5. 05/09/19 3:15 pm Brittany Parnell

https://nextcatalog.mst.edu/courseleaf/courseleaf.cgi?page=/courseadmin/2614/index.html... 5/14/2019

#### PET ENG 3520: Petroleum Reservoir Engineering

Catalog Description	Properties of reservoir formations and fluids; reservoir volumetrics, reservoir statics, reservoir dynamics. Darcy's law and the mechanics of single and multiphase fluid flow through reservoir rock, capillary phenomena, material balance, reservoir drive mechanisms.				(ershenb): Approved for CCC Meeting Agenda 6. 05/09/19 3:31 pm	
Prerequisites Field Trip Statement	Accompaniec	l or preceded b	y Pet Eng <b>2510,</b>	Pet Eng 3320. <del>25</del>	<del>10.</del>	Stephen Raper (sraper): Approved for Campus Curricula
Credit Hours	LEC: <b>3</b>	LAB: <b>0</b>	IND: 0	RSD: 0	Total: <b>3</b>	Committee Chair
Required for Majors	Yes <del>No</del>					
Elective for Majors	No					
Justification for change: Semesters previously offered as an experimental course Co-Listed Courses:		-	520 is now inclu e foundation of	-	20 Petrophysics which	
Course Reviewer Comments	sraper (04/1	5/19 10:27 am)	: Changed to red	quired for major.		
						Key: 2614
						Preview Bridge

Date Submitted: 03/29/19 10:55 am

Majors

#### In Workflow Viewing: PET ENG 4097 : Petroleum Engineering Design 1. RGEOSENG Chair File: 285.1 2. CCC Secretary Last edit: 04/15/19 10:28 am 3. Engineering DSCC Changes proposed by: reflori 4. Pending CCC ^ PE ENG-BS: Petroleum Engineering BS Programs referencing this 5. CCC Meeting course V 6. Campus Curricula Requested Fall 2019 08/14/2018 7. FS Meeting **Effective Change** Date 8. Faculty Senate Department Geosciences and Geological and Petroleum Engineering 9. Registrar 10. CAT entry Discipline Petroleum Engineering (PET ENG) 11. Peoplesoft **Course Number** 4097 Title Petroleum Engineering Design Approval Path Abbreviated Petroleum Engr Design 1. 03/29/19 11:37 Course Title Catalog Description Senior capstone design project(s) based on industry data. Application of reservoir engineering: drilling and production engineering principles to evaluate and solve an 2. 04/02/19 2:05 pm industry problem such as a new field development, evaluation of an existing reservoir asset, or analysis of field re-development. Prerequisites Pet Eng 3520 3520, Pet Eng 3410, and senior standing. 3. 04/15/19 10:28 Field Trip Statement **Credit Hours** LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3 Required for Yes No Majors 4. 04/23/19 1:24 pm Elective for No

Chair

Agenda post

**Committee Chair** 

Agenda

Agenda

Chair

am

David Borrok

Approved for

**RGEOSENG Chair** 

**Brittany Parnell** 

Approved for CCC

Stephen Raper (sraper):

Approved for

**Engineering DSCC** 

Brittany Parnell

(ershenb):

(ershenb):

Secretary

am

Chair

(borrokd):

Justification for	Approved for
change:	Pending CCC
One of the former pre-reqs, Pet Eng 3410, doesn't exist.	Agenda post
Semesters	5. 05/09/19 3:16 pm
previously	Brittany Parnell
offered as an	(ershenb):
experimental	Approved for CCC
course	Meeting Agenda
	6. 05/09/19 3:31 pm
	Stephen Raper
Co-Listed	(sraper):
Courses:	Approved for
	Campus Curricula
Course Reviewer	Committee Chair
Comments	
sraper (04/15/19 10:28 am): changed to required for major.	
	Key: 285

newing: PET ENG 4311: Reservoir Characterization In Workflow   iile: 1671.6 I. REGOSENG Chair 2. CCC Secretary   ast approved: 10/21/16 3.05 pm Secretary 8. Engineering DCC   charges proposed by: reflori Request delt: 04/02/19 2.07 pm 4. Pending CCC   charges proposed by: reflori Request delt: 04/02/19 2.07 pm 5. CCC Meeting   Request delt: 04/02/19 2.07 pm Secretary 4. Pending CCC   Charges proposed by: reflori Request delt: 04/02/19 2.07 pm 5. CCC Meeting   Department Geosciences and Geological and Petroleum Geosciences and Geological and Petroleum 6. Campus Curricula Committee Chair   Department Geosciences and Geological and Petroleum 8. Faculty Senate Chair   Course Mumber 4311 Reservoir Characterization 8. Faculty Senate   Chair Reservoir Characteriz 10. CAT entry 11. Peoplesoft   Title Reservoir Characteriz 10. CAT entry 11. Peoplesoft   Prerequisites Pet Eng 3330. 434.0 ND: D RSD: D Total: 3   Prerequisites Pet Eng 3330. is the new number for Weil Logging, not 3310. Approved for CCC Secretary   Majors Sechering Scharges Charges Sechering   Sensetsrs Septements Septements Septements   Sensetsrs Septements Septements Septements   Course Virther V res Sechering Septements Septements   Sensetsrs Septements Septements Approved for CCC Cha	Date Submitted: 03/	29/19 10:56 am	
ile: 157.6	Viewing: PET EI	NG 4311 : Reservoir Characterization	In Workflow
ast aproved: 10/ 21/ 3 :05 pm ar 10/ 21/ 3 :05 pm ar 10/ 21/ 3 :05 pm ar 10/ 200 mm a	File: 1671.6		
at edit: 04/02/19 2:07 pm /	Last approved: 10,	/21/16 3:05 pm	· ·
hanges proposed by: reflori       4. Pending CCC Agenda post         Request Date       5 c CCC Meeting Agenda post         Department       Geosciences and Geological and Petroleum       5 C CCC Meeting Agenda post         Discipine       Petroleum Engineering (PET ENG)       7. FS Meeting CCC Agenda post         Course Number       311       7. FS Meeting CCC Agenda post         Abbreviated       Reservoir Characterization       9. Registrar         Abbreviated       Reservoir Characterization of Geologic, Geophysical, and Petroleum       9. Registrar         Description       Engineering data for flow model construction.       1. 03/29/19 11:37         Prerequisites       Pet Eng 3520 and Pet Eng 3330. 3310.       1. 03/29/19 11:37         Field Trip       1. 03/29/19 11:37       and and abbreviated for flow model construction.       1. 03/29/19 11:37         Required for       No       2. 04/02/19 2:07 pm       Brittany Pamella       1. 03/29/19 11:37         Majors       LEC: 3       LAB: 0       IND: 0       RSD: 0       Total: 3       Approved for CCC Screetary         Justification for       Pet Eng 3330 is the new number for Well Logging, not 3310.       Semesters			
Requested Effective Change Date       Spring 2020 08/14/2018       S. CC. Meeting Agenda Semitive Change         Department Engineering       Geosciences and Geological and Petroleum Engineering       S. CC. Meeting Agenda         Discipline       Petroleum Engineering (PET ENG)       S. Social Semitive Change         Course Number       4311       S. Social Semitive Change         Abbreviated       Reservoir Characterization       S. Social Semitive Change         Abbreviated       Reservoir Characteriz       S. C. Arentry         Description       Integration and extrapolation of Geologic, Geophysical, and Petroleum Engineering data for flow model construction.       Approval Path David Borrok (Borroka):         Field Trip Statement       Pet Eng 3520 and Pet Eng 3330. 3240       Total: 3       Approved for RECOSENC Chair Required for Majors       S. 04/05/19.207 pm Brittary Pamell Brittary Pamell (ersheh):         Justification for Grange:       Pet Eng 3330 is the new number for Well Logging, not 3310.       Total: 3       S. 04/05/19.207 am Stemestrs         Semestrs       Pet Eng 3330 is the new number for Well Logging, not 3310.       S. 04/05/19.1027 am Stemestrs       S. 04/05/19.127 am Stemestrs         Semestrs       Pet Eng 3330 is the new number for Well Logging, not 3310.       S. 04/05/19.127 am Stemestrs       S. 04/05/19.127 am Stemestrs         Course Review       Pet Fing 3330 is the new number for Well Logging, not 3310.       <	Changes proposed b	y: reflori	
Effective Change       S. CCC Meeting       Agenda         Date       Engineering       Engineering       Engineering       Engineering       For Committee Chair         Discipline       Petroleum Engineering (PET ENG)       Agenda       Agenda         Course Number       4311       Agenda       Be Faculty Senate       Chair         Title       Reservoir Characterization       Reservoir Characterization of Geologic, Geophysical, and Petroleum       Be Registrand         Catalog       The integration and extrapolation of Geologic, Geophysical, and Petroleum       Approval Path         Description       Engineering data for flow model construction.       In 0/29/19 11:37         Prerequisites       Pet Eng 3520 and Pet Eng 3330. 33:0.       David Borrok         Statement       LeC: 3       LAB: 0       IND: 0       RSD: 0       Total: 3       Approved for         Required for       No       Scccccccccccccccccccccccccccccccccccc	Requested	Spring 2020 08/14/2018	
Department Geosciences and Geological and Petroleum Engineering (PET ENG) Discipline Petroleum Engineering (PET ENG) Course Number 4311 Title Reservoir Characterization 4311 Title Reservoir Characterization Abbreviated Reservoir Characterization of Geologic, Geophysical, and Petroleum 10. CAT entry 11. Peoplesoft Catalog The integration and extrapolation of Geologic, Geophysical, and Petroleum Engineering data for flow model construction. Catalog The integration and extrapolation of Geologic, Geophysical, and Petroleum 10. CAT entry 11. Peoplesoft Catalog Engineering data for flow model construction. Fried Trip Statement LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3 Required for No Majors LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3 Required for No Majors Pet Eng 3330 is the new number for Well Logging, not 3310. Chair Semesters previously of fee Lag 3330 is the new number for Well Logging, not 3310. Chair Geoliter Courses Course Cours			5. CCC Meeting
Department         Geosciences and Geological and Petroleum         Committee Chair           Engineering         Petroleum Engineering (PET ENG)         Agenda           Course Number         4311         Reservoir Characterization         Regentar           Abbreviated         Reservoir Characterization         9. Registrar         10. CAT entry           Catalog         The Integration and extrapolation of Geologic, Geophysical, and Petroleum         Approval Path           Description         Engineering data for flow model construction.         1. 0.0/29/19 11.37 am           Prerequisites         Pet Eng 3520 and Pet Eng 3330. 3310.         1. 0.0/29/19 11.37 am           Field Trip         Statement         2. 04/02/19 20.07 pm           Majors         LEC: 3         LAB: 0         IND: 0         RSD: 0         Total: 3           Majors         LEC: 3         LAB: 0         IND: 0         RSD: 0         Total: 3           Majors         Ves         Statement         2. 04/02/19 20.07 pm         RetOSCING Chair           Majors         Ves         Statement or Ves         Approved for CRC         Sceretry           Justification for         Ne         Ves         Sceretry         3. 04/15/19 10.29 am           Majors         Pet Eng 3330 is the new number for Well Logging, not 3310.	Date		
Image: Instrume to the total of the top of the top of the top of the top of	Department	Geosciences and Geological and Petroleum	-
Discipline       Petroleum Engineering (PET ENG)       Agenda         Course Number       4311       8. Faculty Senate Chair         Title       Reservoir Characterization       9. Registrar         Abbreviated       Reservoir Characteriz       10. CAT entry         Course Title       10. CAT entry       11. Peoplesoft         Catalog       The integration and extrapolation of Geologic, Geophysical, and Petroleum       Approval Path         Description       Engineering data for flow model construction.       1. 03/29/19 11:37         Field Trip       Field Trip       3. AB: 0       IND: 0       RSD: 0       Total: 3         Required for       No       2. 04/02/19 2:07 pm       Brittany Parnell       Elective for       2. 04/02/19 2:07 pm         Majors       Elective for       Yes       2. 04/02/19 2:07 pm       Brittany Parnell       Elective for       3. 04/15/19 10:29       am         Justification for       Pet Eng 3330 is the new number for Well Logging, not 3310.       Secretary       3. 04/15/19 10:29       am         Gourses:       Secretary       3. 04/15/19 10:29       am       Stephen Raper (sraper): Approved for Pangineering 0SCC Chair       Approved for Pangineering 0SCC Chair         Courses:       Secretary       3. 04/15/19 10:29       am       Stephen Raper (sraper): A		-	
Course Number       4311       8. Faculty Senate Chair         Title       Reservoir Characterization       9. Registrar         Abbreviated       Reservoir Characteriz       10. CAT entry         Course Title       11. Peoplesoft       Approval Path         Catalog       The integration and extrapolation of Geologic, Geophysical, and Petroleum       Approval Path         Description       Engineering data for flow model construction.       1. 03/29/19 11:37         Field Trip       Statement       1. 03/29/19 11:37         Statement       Versition       Baid Borrok (borrokd): (borrokd): Approved for Required for       Approved for RecoSENC Chair         Majors       LEC: 3       LAB: 0       IND: 0       RSD: 0       Total: 3         Justification for experimental       Pet Eng 3330 is the new number for Well Logging, not 3310. change:       3. 04/15/19 10:29       am         Semesters       Semesters       Station Proved for Courses:       4. 04/23/19 1:24 pm       Station Proved for Engineering Oxfor Engineering Oxfor Pending CCC       Approved for Pending CCC         Course Reviewer       So (50/09/19) 3:16 pm       Approved for P	Discipline	Petroleum Engineering (PET ENG)	
Course Number       4511       Chair         Title       Reservoir Characterization       9. Registrar         Abbreviated       Reservoir Characteriz       10. CAT entry         Course Title       11. Peoplesoft         Catalog       The integration and extrapolation of Geologic, Geophysical, and Petroleum       Approval Path         Description       Engineering data for flow model construction.       Approval Path         Field Trip       Statement       David Borrok         Chair       Approval Path       1. 03/29/19 11:37         Required for       No       Sector of the approval Path       1. 03/29/19 11:37         Majors       LEC: 3       LAB: 0       IND: 0       RSD: 0       Total: 3       Approved for         Required for       No       Sector of the approved for CCC       Secretary       Secretary       Approved for CCC         Justification for       Pet Eng 3330 is the new number for Well Logging, not 3310.       Secretary       Statement (sraper): approved for CCC         Semesters       Semesters       Statement (sraper): approved for CCC       Regineering DSCC         Course       Course Reviewer       Approved for Pending CCC       Regrapering DSCC         Courses:       Course Reviewer       Approved for Pending CCC       Apgenda post	·		
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Course Title       11. Peopleoft         Catalog       The integration and extrapolation of Geologic, Geophysical, and Petroleum       Approval Path         Description       Engineering data for flow model construction.       1. 03/29/19 11:37         Frieduristion       Pet Eng 3520 and Pet Eng 3330. 3310.       100         Field Trip       Statement       2. 04/02/19 2070 pm         Credit Hours       LEC: 3       LAB: 0       IND: 0       RSD: 0       Total: 3       Approved for         Required for Majors       No       2. 04/02/19 2070 pm       Brittany Parnell (ershenb):       2. 04/02/19 2070 pm         Lective for Majors       Yes       2. 04/02/19 2070 pm       Brittany Parnell (ershenb):       2. 04/02/19 2070 pm         Justification for experimental course       Yes       2. 04/02/19 2070 pm       Brittany Parnell (ershenb):       2. 04/02/19 2070 pm         Collade       Yes       3. 04/15/19 10.02       Approved for CCC Secretary       Secretary       3. 04/15/19 10.02       Brittany Parnell (ershenb):       Approved for CCC Approved for CCC Chair         Semesters previously offered as an experimental course:       Pet Eng 3330 is the new number for Well Logging, not 3310.       3. 04/15/19 10.02       Brittany Parnell (ershenb):       Brittany Parnell (ershenb):       Brittany Parnell (ershenb)	Title	Reservoir Characterization	9. Registrar
Catalog       The integration at extrapolation of Geologic, Geophysical, and Petroleum       Approval Path         Description       Engineering data for flow model construction.       1. 03/29/19 11:37         Prerequisites       Pet Eng 3520 and Pet Eng 3330. 3310.       am         Field Trip       Javid Borrok       (borrokd):         Statement       Approved for         Credit Hours       LEC: 3       LAB: 0       IND: 0       RSD: 0       Total: 3       Approved for         Required for       No       Ves       2. 04/02/19 2:07 pm       Brittany Parnelli (ershenb):         Majors       Yes       Secretary       3. 04/15/19 10:29       am         Justification for       Pet Eng 3330 is the new number for Well Logging, not 3310.       Secretary       3. 04/15/19 10:29         Semesters       Ferviewa       Stephen Raper (sraper):       Approved for         Course       Ferviewa       40/42/319 1:24 pm         Course Reviewer       Course Reviewer       Approved for         Course Reviewer       Approved for       Approved for         Comments       Approved for       Approved for         Statemental       Stephen Raper       Stephen Raper         Course Reviewer       Stephen Raper       Approved for <td< td=""><td>Abbreviated</td><td></td><td></td></td<>	Abbreviated		
Description       Engineering data for flow model construction.       1. 03/29/19 11:37         Prerequisites       Pet Eng 3520 and Pet Eng 3330. 3310.       1. 03/29/19 11:37         Field Trip       David Borrok       (borrokd):         Statement       (borrokd):         Credit Hours       LEC: 3       LAB: 0       IND: 0       RSD: 0       Total: 3       Approved for RGEOSENG Chair         Required for       No       2. 04/02/19 2:07 pm       Brittany Parnell (ershenb):       Approved for CCC Secretary         Justification for       Yes       Approved for CCC Secretary       3. 04/15/19 10:29       am         Semesters       Pet Eng 3330 is the new number for Well Logging, not 3310.       3. 04/15/19 10:29       am         Course       Stephen Raper (sraper):       Approved for CCC Chair       Approved for CCC Chair         Courses:       Course Reviewer       4. 04/23/19 1:24 pm       Brittany Parnell (ershenb):         Course Reviewer       Course Reviewer       Approved for Pending CCC Agenda post       Approved for Pending CCC Agenda post         Course Reviewer       Stophonel for Straper (sraper):       Approved for Pending CCC Agenda post       Approved for Pending CCC Agenda post	Course Title		11. Peoplesoft
Description       Engineering data for flow model construction.       1. 03/29/19 11:37         Prerequisites       Pet Eng 3520 and Pet Eng 3330. 3310.       am         Field Trip       David Borrok       (borrokd):         Statement       .       .         Credit Hours       LEC: 3       LAB: 0       IND: 0       RSD: 0       Total: 3       Approved for         Required for       No       .       .       .       .       .       .         Majors       .       <	Catalog	The integration and extrapolation of Geologic, Geophysical, and Petroleum	Approval Path
Prerequisites       Pet Eng 3520 and Pet Eng 3330. 3310.       am         Field Trip       David Borrok (borrokd):       Approved for         Statement       LEC: 3       LAB: 0       IND: 0       RSD: 0       Total: 3       Approved for         Required for       No       Statement       2.       04/02/19 2:07 pm         Brittany Parnell       (ershenb):       Majors       Servertany       3.       04/15/19 10:29         Italification for       Yet Eng 3330 is the new number for Well Logging, not 3310.       Severetany       3.       04/15/19 10:29         Semesters       Yet Eng 3330 is the new number for Well Logging, not 3310.       Stephen Raper       (sraper):         Offreed as an       Stephen Raper       (sraper):       Approved for         Course Reviewer       Serveriewer       4.       04/23/19 1:24 pm         Course Reviewer       Serveriewer       Serveriewer       4.         Course Reviewer <t< td=""><td>Description</td><td>Engineering data for flow model construction.</td><td></td></t<>	Description	Engineering data for flow model construction.	
Field Trip       David Borrok         Statement       LEC: 3       LAB: 0       IND: 0       RSD: 0       Total: 3       Approved for         Required for       No       2.       0.40/20/19 2:07 pm         Majors       2.       0.40/20/19 2:07 pm         Elective for       Yes       2.       0.40/20/19 2:07 pm         Majors       2.       0.40/20/19 2:07 pm       Brittany Parnell         Steptimental       Yes       2.       0.40/15/19 10:29         change:       Yes       3.       0.41/15/19 10:29       am         Semestrs       Yes       Secretary       3.       0.41/15/19 10:29       am         Semestral       Yes       Yes <td>Prerequisites</td> <td>Pet Eng 3520 and Pet Eng <b>3330. <del>3310.</del></b></td> <td></td>	Prerequisites	Pet Eng 3520 and Pet Eng <b>3330. <del>3310.</del></b>	
Statement       (borrokd):         Credit Hours       LEC: 3       LAB: 0       IND: 0       RSD: 0       Total: 3       Approved for         Required for       No       2.       04/02/19 2:07 pm         Majors       2.       04/02/19 2:07 pm         Elective for       Yes       2.       04/02/19 2:07 pm         Justification for       Yes       2.       04/02/19 2:07 pm         Justification for       Yes       2.       04/02/19 2:07 pm         Semestrs       Yes       2.       04/02/19 2:07 pm         previously       Yes       2.       04/02/19 2:07 pm         offered as an       Yes       2.       04/02/19 2:07 pm         experimental       Yes       2.       04/05/19 10:29         course       Yes       2.       04/05/19 10:29         Courses:       Yes       2.       04/05/19 10:29         Course Reviewer       Yes       2.       04/05/19 10:29         Course Reviewer       Yes       2.       04/05/19 10:29         Course Leve       Yes       2.       04/05/19 10:29         Reviewer       Yes       2.       04/05/19 10:29         Course Leve       Yes       2. <t< td=""><td>Field Trip</td><td></td><td>David Borrok</td></t<>	Field Trip		David Borrok
Credit Hours       LEC: 3       LBD: 0       IND: 0       RSD: 0       Total: 3       REGEOSENG Chair         Required for       No       2. 04/02/19 2:07 pm       Brittany Parnell       (ershenb):         Majors       Yes       2. 04/02/19 2:07 pm       Brittany Parnell       (ershenb):         Majors       Yes       2. 04/02/19 2:07 pm       Brittany Parnell       (ershenb):         Justification for       Yes       2. 04/15/19 10:29       am         Semesters       Yes       3. 04/15/19 10:29       am         previously       Stephen Raper       (sraper):       (sraper):         offered as an       Yes       Stephen Raper       (sraper):         course       4. 04/23/19 1:24 pm       Brittany Parnell       (ershenb):         Courses:       Yes       Yes       Yes       Stephen Raper         Courses:       Yes       Yes       Yes       Yes       Yes         Course Reviewer       Yes       Yes       Yes       Yes       Yes         Course Reviewer       Yes       Approved for       Pending CCC       Agenda post         Course Reviewer       Yes       Yes       Yes       Yes       Yes       Yes         Yes			(borrokd):
Required for No No Advancemental Second Seco	Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3	Approved for
Majors     Brittany Parnell       Elective for     Yes       Majors     (ershenb):       Majors     Approved for CCC       Justification for     Pet Eng 3330 is the new number for Well Logging, not 3310.     3. 0.4/15/19 10:29       change:     3. 0.4/15/19 10:29     am       Semesters     (sraper):     (sraper):       previously     Grifferd as an     Stephen Raper       course     -     Engineering DSCC       course     -     Chair       Course Reviewer     4. 04/23/19 1:24 pm       Course Reviewer     -     Approved for       Course Reviewer     -     -       Course Reviewer     -     -		No	
Elective for Yes (ershenb): Majors Approved for CCC Secretary 3 Justification for Pet Eng 3330 is the new number for Well Logging, not 3310. change: Semesters Secretary 3 Semesters Secretary 3 Semesters Secretary 3 Stephen Raper (sraper): Approved for Stephen Raper (sraper): Stephen Raper (sraper): Approved for Stephen Raper (sraper): Stephen Raper (sraper): Approved for Stephen Raper (sraper): Stephen Raper (sraper): Stephen Raper (sraper): Approved for Stephen Raper (sraper): Stephen Raper (sraper): Stephen Raper (sraper): Approved for Stephen Raper (sraper): Stephen Raper (sraper): Stephen Raper (sraper): Stephen Raper (sraper): Stephen Raper (sraper): Approved for Stephen Raper (sraper): Stephen Ra			
Majors       Approved for CCC         Justification for       Pet Eng 3330 is the new number for Well Logging, not 3310.       3. 04/15/19 10:29         change:       Semesters       Stephen Raper         previously       Stephen Raper       (sraper):         offered as an       Engineering DSCC         course       Co-Listed       A04/23/19 1:24 pm         Co-Listed       Witters       Brittany Parnell         Course Reviewer       Approved for         Comments       Approved for         Key:107       Stephen Raper         Stephen Raper       Stephen Raper         Stephen Raper       Engineering DSCC         course       Approved for         Engineering DSCC       Chair         Approved for       Engineering DSCC         Course Reviewer       Approved for         Comments       Approved for         Key:107       Stephen Raper         Stephen Raper       Stephen Raper         Stephen Raper       Engineering DSCC         Course Reviewer       Approved for         Comments       Approved for         Stephen Raper       Stephen Raper         Stephen Raper       Stephen Raper         Stephen Raper       Step			
Integers       Secretary         Justification for pet Eng 3330 is the new number for Well Logging, not 3310.       3. 04/15/19 10:29         change:       am         Semesters       Stephen Raper         previously       offered as an         experimental       Engineering DSCC         course       Chair         Co-Listed       4. 04/23/19 1:24 pm         Courses:       Brittany Parnell         courses:       Approved for         Course Reviewer       Approved for         Comments       Approved for         Keynets       Approved for         Engineering DSCC       Approved for         Engineering DSCC       Chair         4. 04/23/19 1:24 pm       Brittany Parnell         (ershenb):       Approved for         Pending CCC       Agenda post         Scotoglad post       5. 05/09/19 3:16 pm		Yes	
change:amSemestersStephen Raperpreviously(sraper):offered as anApproved forexperimentalEngineering DSCCcourseChairCo-ListedAdvalageCourses:Brittany ParnellCourse Reviewer(srshenb):Course ReviewerApproved forCourse ReviewerApproved forStop Job	Wajors		
Semesters Semest	Justification for	Pet Eng 3330 is the new number for Well Logging, not 3310.	3. 04/15/19 10:29
semesters (sraper): previously (sraper): Approved for Engineering DSCC Chair 4. 04/23/19 1:24 pm Brittany Parnell (ershenb): Course Reviewer Course Reviewer Comments Approved for Pending CCC Agenda post 5. 05/09/19 3:16 pm	change:		am
previously       Approved for         experimental       Engineering DSCC         course       4. 04/23/19 1:24 pm         Co-Listed       Brittany Parnell         Courses:       (ershenb):         Course Reviewer       Approved for         Comments       Approved for         Key:1971       5. 05/09/19 3:16 pm	Semesters		
experimental       Engineering DSCC         course       Chair         Co-Listed       A 04/23/19 1:24 pm         Courses:       Brittany Parnell         Course Reviewer       (ershenb):         Course Reviewer       Approved for         Comments       Agenda post         Key:101       5. 05/09/19 3:16 pm	previously		
course       Chair         course       4. 04/23/19 1:24 pm         Co-Listed       Brittany Parnell         Courses:       (ershenb):         Course Reviewer       Approved for         Comments       Pending CCC         Agenda post       S. 05/09/19 3:16 pm	offered as an		
Course       A. 04/23/19 1:24 pm         Co-Listed       Brittany Parnell         Courses:       (ershenb):         Course Reviewer       Approved for         Comments       Pending CCC         Agenda post       S. 05/09/19 3:16 pm	experimental		
Co-Listed     Brittany Parnell       Courses:     (ershenb):       Course Reviewer     Approved for       Comments     Pending CCC       Agenda post     Agenda post       5. 05/09/19 3:16 pm	course		
Courses:     (ershenb):       Course Reviewer     Approved for       Comments     Pending CCC       Agenda post     Agenda post       5. 05/09/19 3:16 pm	Co-Listed		
Course Reviewer     Pending CCC       Comments     Agenda post       S. 05/09/19 3:16 pm	Courses:		(ershenb):
Comments         Agenda post           Key:1671         5. 05/09/19 3:16 pm	Course Reviewer		
<sup>Key: 1671</sup> 5. 05/09/19 3:16 pm	Comments		
		Key: 1671	

https://nextcatalog.mst.edu/courseleaf/courseleaf.cgi?page=/courseadmin/1671/index.html... 5/14/2019

#### (ershenb):

- Approved for CCC Meeting Agenda
- 6. 05/09/19 3:31 pm
  Stephen Raper
  (sraper):
  Approved for
  Campus Curricula
  Committee Chair

#### History

 Oct 21, 2016 by pattyr (1671.1)

Date Submitted: 03/29/19 10:58 am

#### Viewing: PET ENG 4431 : Well Completion Design File: 1299.1 Last edit: 04/15/19 10:29 am Changes proposed by: reflori In The Prerequisites: Other Courses PET ENG 6431 : Advanced Well Completion Design referencing this course Requested Spring 2020 08/14/2018 **Effective Change** Date Department Geosciences and Geological and Petroleum Engineering Discipline Petroleum Engineering (PET ENG) **Course Number** 4431 Title Well Completion Design Abbreviated Well Completion Design Course Title Catalog Description

An overview of the hardware, fluids and processes employed in completing oil and gas wells. Examination of types of well completions and considerations in their design. Introduction to downhole mechanics and tubing movement and stress calculations.

(ershenb): Prerequisites Approved for CCC Pet Eng 4410. 3520. Secretary 3. 04/15/19 10:29 Field Trip am Statement Stephen Raper (sraper): **Credit Hours** LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3 Approved for Required for No **Engineering DSCC** Majors Chair 4. 04/23/19 1:24 pm Elective for Yes No **Brittany Parnell** Majors

In Workflow

Chair 4. Pending CCC

^

V

1. RGEOSENG Chair

3. Engineering DSCC

Agenda post

5. CCC Meeting

Agenda 6. Campus Curricula Committee Chair

7. FS Meeting

Agenda

Chair

9. Registrar
 10. CAT entry

11. Peoplesoft

Approval Path

am

1. 03/29/19 11:37

David Borrok

Approved for

**RGEOSENG Chair** 

2. 04/02/19 2:15 pm

**Brittany Parnell** 

(ershenb):

(borrokd):

8. Faculty Senate

2. CCC Secretary

#### PET ENG 4431: Well Completion Design

Justification for	Approved for
change:	Pending CCC
Pet Eng 4410 is our Production course, a better pre-req than 3520 Reservoir	Agenda post
Engineering.	5. 05/09/19 3:17 pm
Semesters	Brittany Parnell
previously	(ershenb):
offered as an	Approved for CCC
experimental	Meeting Agenda
course	6. 05/09/19 3:31 pm
	Stephen Raper
	(sraper):
Co-Listed	Approved for
Courses:	Campus Curricula
Course Reviewer	Committee Chair
Commonto	
Comments sraper (04/15/19 10:29 am): changed to elective for major.	
	Key: 1299

Date Submitted: 03	/29/19 10:59 am		
Viewing: PET E	NG 4611 : Secondary Recovery Of Petroleum	In Workflow	
File: 1266.1	1. RGEOSENG Chair		
Last edit: 05/09/1	2. CCC Secretary 3. Engineering DSCC		
Changes proposed I	by: reflori	Chair	
Other Courses referencing this course	In The Prerequisites: PET ENG 6631 : A Survey Of Improved Recovery Processes	<ol> <li>Pending CCC Agenda post</li> <li>CCC Meeting Agenda</li> </ol>	
Requested Effective Change Date	Fall 2019 <del>08/14/2018</del>	<ol> <li>6. Campus Curricula Committee Chair</li> <li>7. FS Meeting Agenda</li> <li>8. Faculty Senate</li> </ol>	
Department	Geosciences and Geological and Petroleum Engineering	Chair 9. Registrar	
Discipline	Petroleum Engineering (PET ENG)	10. CAT entry	
Course Number	4611	11. Peoplesoft	
Title	Secondary Recovery Of Petroleum	Approval Path	
Abbreviated Course Title	Secondary Recovery -Petr	1. 03/29/19 11:37 am	
Catalog Description	Oil recovery by water injection. Effects of wettability, capillary pressure, relative permeability, mobility ratio on displacement, sweep, and recovery efficiencies. Piston-like and Buckley-Leverett models. Fractional flow and frontal advance equation. Oil recovery prediction methods for linear and pattern waterfloods in single and multi-layered reservoirs.	David Borrok (borrokd): Approved for RGEOSENG Chair 2. 04/02/19 2:17 pm	
Prerequisites Field Trip Statement	Pet Eng <b>3520. <del>3520, Pet Eng 3529.</del></b>	Brittany Parnell (ershenb): Approved for CCC Secretary	
	LEC: <b>3</b> LAB: <b>0</b> IND: <b>0</b> RSD: <b>0</b> Total: <b>3</b>	3. 04/15/19 10:30	
Credit Hours Required for Majors	LEC: <b>3</b> LAB: <b>0</b> IND: <b>0</b> RSD: <b>0</b> Total: <b>3</b> No	am Stephen Raper (sraper):	
Elective for Majors	Yes <del>No</del>	Approved for Engineering DSCC Chair	
Justification for change: Semesters previously offered as an experimental course	Pet Eng 3520 is the only pre-req needed for this course. Drop 3529	<ul> <li>4. 04/23/19 1:24 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post</li> <li>5. 05/09/19 3:19 pm Brittany Parnell</li> </ul>	

Co-Listed		(ershenb):
Courses:		Approved for CCC
		Meeting Agenda
Course Reviewer srape	r (04/15/19 10:30 am): changed to elective for major.	6. 05/09/19 3:31 pm
Comments		Stephen Raper
	Key: 12/	6 (sraper):
		Approved for
		Campus Curricula
		Committee Chair

/iewing: <b>PET E</b> File: 919.1 Last edit: 04/15/1 Changes proposed b		In Workflow 1. RGEOSENG Chair 2. CCC Secretary 3. Engineering DSCC Chair	
Programs referencing this course	PE ENG-BS: Petroleum Engineering BS	<ol> <li>Pending CCC Agenda post</li> <li>CCC Meeting Agenda</li> </ol>	
Requested Effective Change Date	Spring 2020 <del>08/14/2018</del>	<ol> <li>Campus Curricula Committee Chain</li> <li>FS Meeting Agenda</li> <li>Faculty Senate</li> </ol>	
Department	Geosciences and Geological and Petroleum Engineering	Chair 9. Registrar	
Discipline	Petroleum Engineering (PET ENG)	10. CAT entry	
Course Number	4720	11. Peoplesoft	
Title	Mechanical Earth Modeling	Approval Path	
Abbreviated Course Title	Mech Earth Modeling	1. 03/29/19 11:37 am	
Catalog Description	This course introduces the work process necessary to create the Mechanical Earth Model's principle components, formation in-situ stress and strength. 1-D modelign methods are reviewed and extended to 3-D; and the integration of MEM with well design is shown. An MEM model will be created and compared to actual field results.	David Borrok (borrokd): Approved for RGEOSENG Chair 2. 04/02/19 2:18 pr Brittany Parnell	
Prerequisites	Pet Eng <b>3330 <del>3310</del> and Geology 3310</b> .	(ershenb):	
Field Trip Statement		Approved for CC Secretary	
Credit Hours	LEC: <b>3</b> LAB: <b>0</b> IND: <b>0</b> RSD: <b>0</b> Total: <b>3</b>	3. 04/15/19 10:31 am	
Required for Majors	Yes <del>No</del>	Stephen Raper (sraper):	
Elective for Majors	No	Approved for Engineering DSC Chair	
Justification for change: Semesters previously offered as an	Pet Eng 3330 is the new number for Pet Eng 3310 Well Logging.	<ul> <li>4. 04/23/19 1:24 pr</li> <li>Brittany Parnell (ershenb): Approved for Pending CCC Agenda post</li> </ul>	
experimental course		5. 05/09/19 3:20 p Brittany Parnell	

Co-Listed Courses:	(ershenb): Approved for CCC
Course Reviewer sraper (04/15/19 10:31 am): changed to required for majors. Comments	Meeting Agenda 6. 05/09/19 3:31 pm Stephen Raper
Key: 915	(sraper): Approved for Campus Curricula Committee Chair

Date Submitted: 03,	/29/19 11:02 am	
/iewing: PET E	In Workflow	
ile: 2142.1		1. RGEOSENG Chair
.ast edit: 04/15/1	9 10:32 am	2. CCC Secretary 3. Engineering DSCC
Changes proposed b	by: reflori	Chair
Requested	Spring 2020 <del>08/01/2014</del>	4. Pending CCC
Effective Change		Agenda post
Date		5. CCC Meeting
Department	Geosciences and Geological and Petroleum	Agenda
	Engineering	6. Campus Curricula Committee Chair
Discipline	Petroleum Engineering (PET ENG)	7. FS Meeting
Course Number	4811	Agenda
		8. Faculty Senate
Title	Offshore Petroleum Technology	Chair
Abbreviated	Offshore Petr Tech	9. Registrar
Course Title		10. CAT entry
Catalog	An introduction to the development of oil and gas fields offshore, including offshore	11. Peoplesoft
Description	leasing, drilling, well completions, production facilities, pipelines, and servicing.	Approval Dath
	Subsea systems, and deepwater developments are also included. This course is	Approval Path
	suitable for mechanical, electrical and civil engineering students interested in	1. 03/29/19 11:37 am
	ultimately working offshore.	David Borrok
Prerequisites	Pet Eng 3520.	(borrokd):
Field Trip		Approved for
Statement		RGEOSENG Chair
Credit Hours	LEC: <b>3</b> LAB: <b>0</b> IND: <b>0</b> RSD: <b>0</b> Total: <b>3</b>	2. 04/02/19 2:20 pn
Required for	No	Brittany Parnell
Majors		(ershenb): Approved for CCC
Elective for	Yes <del>No</del>	Secretary
Majors		3. 04/15/19 10:32
Justification for	This course previously had no pre-req listed. It needed one, and Pet Eng 3520 is the	am Stephen Raper
change:	best choice.	(sraper):
Semesters		Approved for
previously		Engineering DSC
offered as an		Chair
experimental		4. 04/23/19 1:24 pr
course		Brittany Parnell
Co-Listed		(ershenb): Approved for
Courses:		Pending CCC
Course Reviewer	sraper (04/15/19 10:32 am): changed to elective for majors.	Agenda post
Comments		5. 05/09/19 3:21 pn Brittany Parnell
	Key: 214	

(ershenb):

Approved for CCC Meeting Agenda

6. 05/09/19 3:31 pm
Stephen Raper
(sraper):
Approved for
Campus Curricula
Committee Chair

Page 1 of 2

# Course Change Request

Date Submitted: 03,	/29/19 11:03	am				
Viewing: PET ENG 6431 : Advanced Well Completion Design					In Workflow	
File: 4175.2					1. RGEOSENG Chair	
Last approved: 05/04/15 3:20 am Last edit: 05/09/19 3:23 pm Changes proposed by: reflori					2. CCC Secretary	
					3. Engineering DSC Chair	
					4. Pending CCC	
					Agenda post	
Requested Effective Change Date	Spring 202	0 <del>00/1//2013</del>				5. CCC Meeting Agenda
Doportmont	Goossions	and Goological	and Potroloum			6. Campus Curricul
Department	Engineerin	es and Geological				Committee Chai
	-	-				7. FS Meeting
Discipline	Petroleum	Engineering (PET	ENG)			Agenda
Course Number	6431					8. Faculty Senate Chair
Title	Advanced	Well Completion	Design			9. Registrar
Abbreviated	Adv Well C	ompl <b>Design <del>Des</del></b>				10. CAT entry
Course Title						11. Peoplesoft
Catalog						Approval Dath
Description						Approval Path
Overview of hard		-				1. 03/29/19 11:38 am
wells. Types of w						David Borrok
tubing movemer			-	n well completio	٦	(borrokd):
design and revie	w of well com	pletions literatur	е.			Approved for
Prerequisites						RGEOSENG Chair
Pet Eng <b>4410.</b> <del>35</del>	20. Students	may not earn cre	dit for both Pet	Eng 4431 and Pet	<del>t Eng</del>	2. 04/02/19 2:21 pi
<del>6431.</del>						Brittany Parnell
Field Trip						(ershenb):
Statement						Approved for CC
						Secretary 3. 04/15/19 10:32
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	3. 04/15/19 10:32 am
Required for	No					Stephen Raper
Majors						(sraper):
Elective for	No					Approved for
Majors						Engineering DSC
-						Chair
Justification for						4. 04/23/19 1:25 pi
change:						Brittany Parnell
						(ershenb):

https://nextcatalog.mst.edu/courseleaf/courseleaf.cgi?page=/courseadmin/4175/index.html... 5/14/2019

Pet Eng 4410 is our Production class which is the most appropriate pre-req for completions.	Approved for Pending CCC
Semesters previously offered as an experimental course Not sure, but several. Co-Listed Courses:	Agenda post 5. 05/09/19 3:23 pm Brittany Parnell (ershenb): Approved for CCC Meeting Agenda 6. 05/09/19 3:31 pm Stephen Raper (sraper):
Course Reviewer Comments ershenb (05/09/19 3:23 pm): Removed "Students may not earn credit for both Pet Eng 4431 and Pet Eng 6431."	Approved for Campus Curricula Committee Chair History 1. May 4, 2015 by reflori

Date Submitted: 03,	/29/19 11:05	am				
Viewing: PET ENG 6621 : Advanced Applied Reservoir Simulation					In Workflow	
File: 79.1					1. RGEOSENG Chair	
Last edit: 03/29/19 11:05 am					<ol> <li>2. CCC Secretary</li> <li>3. Engineering DSCC</li> </ol>	
Changes proposed by: reflori						Chair
Requested Fall 2019 08/14/2014						4. Pending CCC
Effective Change		-, - ,				Agenda post
Date						5. CCC Meeting
Department	Geoscience	es and Geological	and Petroleum			Agenda
	Engineering	-				6. Campus Curricula
Discipline	Petroleum	Engineering (PET	FNG)			Committee Chair
			,			7. FS Meeting Agenda
Course Number	6621					8. Faculty Senate
Title	Advanced A	Applied Reservoir	Simulation			Chair
Abbreviated	Adv Appld	Reservoir				9. Registrar
Course Title	Simulation					10. CAT entry
enhanced recovery processes, future rate predictions and recovery, coning effects, relative permeability adjustments and other history matching techniques. Prerequisites Pet Eng <b>4621 or equivalent.</b> <del>5621.</del>						David Borrok (borrokd): Approved for RGEOSENG Chair
Field Trip Statement						<ol> <li>04/02/19 2:25 pm Brittany Parnell (ershenb): Approved for CCC</li> </ol>
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	Secretary
Required for Majors	No					3. 04/15/19 10:32 am
Elective for Majors	No					Stephen Raper (sraper):
Justification for change: Pet Eng 5621 didn't exist. Pet Eng 4621 is the proper pre-req.					Approved for Engineering DSCC Chair 4. 04/23/19 1:25 pr	
Semesters previously					Brittany Parnell (ershenb):	

offered as an	Approved for
experimental	Pending CCC
course	Agenda post
	5. 05/09/19 3:26 pm
Co-Listed	Brittany Parnell
Courses:	(ershenb):
	Approved for CCC
Course Reviewer	Meeting Agenda
Comments	6. 05/09/19 3:31 pm
Key: 7	, Stephen Raper
	(sraper):
	Approved for
	Campus Curricula
	Committee Chair
	1