PROCEDURAL SEQUENCE FOR ACADEMIC SENATE APPROVAL OF PROPOSALS

- 1. Submit all proposals to the Office of Academic Affairs.
- 2. The Senate President will log items and forward them to the appropriate Senate subcommittees.
- 3. The Senate subcommittee will send the proposal to the Senate.
- 4. Senate proposals will be considered by the Full Faculty.
- 5. If approved, the proposal will then be forwarded to the Vice Chancellor.

Proposals that require action to approve/disapprove/table or remand will be sent back to the Senate according to the monthly meeting schedule.

according to the mo	intilly infecting schedule.			
TITLE: SUBCOMMITTEE;	an Ed. / Cu	ators A.A.S	PROPOSAL #	99-12
Metr 154 replaced by The Jun GWED rea 50 total Cre	Was listed T METL 185. nambies distr jurements for a dits for complete	Twice so to ubutuon is in A.A.S. d non a deape	he 2hd lis not needed ugue - it u e mere red	ting was I to meet was removed wad by 3 except
Rationale:	M			
Action Signatures: Submitter	Racking Motech Co	Approve X	Disapprove	Date 1/21/00 B/7/2000 Date 2/29/00
Committee Chair Faculty Senate Pres	sident	_ Approve	Disapprove	Date
Nice Chancellor for	Academic Affairs	_ Approve	Disapprove	
Chancellor	MAGO	Approve	Disapprove	Date

Program Revision Form

		•		
NEW	DROPPED	MAJOR REVISION	INFORMATION ONLY	X

Date: December 1999

College of Technical Sciences

Department Industrial & Engineering Technology Program Area Railroad Maintenance & Operations A.S.

Please provide in the space below a "before & after" picture of the program with the changes in the program noted. Attach appropriate Course Revision Forms.

	the progra	m noted. Attach appropriate Course Rev	vision Forms.			
	c	FRESHMAN YEAR Courses to be taken Fall Semester			FRESHMAN YEAR Courses to be taken Fall Semester	
	RRT	102 Railroad Technical Crafts	3	RRT	102 Railroad Technical Crafts	3
	MATH	112 College Algebra	. 3	MATH	112 College Algebra	3
		•	3	CIS	110 Intro to Computers	3
	CIS	110 Intro to Computers	3	BIOL	110 Intro to Computero	3
	BIOL	110 Intro to Envir. Health	3	BIOL	110 Into to Envir. Health	J
	• • • • • • •	NE OF THE FOLLOWING AREAS		5. 1.4	11.54	
	Diesel Mac		_	Diesel Ma		2
	DIES	104 Intro to Diesel Engines	3	DIES	104 Intro to Diesel Engines	3
	DIES	114 Intro to Diesel Engines lab	3	DIES	114 Intro to Diesel Engines lab	, 3
	Electronics			Electronic		
	EET	101 Intro to Electricity/Electronics	5	EET	101 Intro to Electricity/Electronics	5
	General Ma	intenance		General M	laintenance	
	DIES	104 Intro to Diesel Engines	3	DIES	104 Intro to Diesel Engines	3
	DIES	114 Intro to Diesel Engines lab	3	DIES	114 Intro to Diesel Engines lab	3
	Diesel Pow	_		Diesel Pov	wer	
	DIES	104 Intro to Diesel Engines	3	DIES	104 Intro to Diesel Engines	3
	DIES	114 Intro to Diesel Engines lab	3	DIES	114 Intro to Diesel Engines lab	3
		114 little to bleser Engines lab	Ū	Welding	, , , , , , , , , , , , , , , , , , ,	
	Welding	154 Gas Arc Welding Processing	3	METL	154 Gas Arc Welding Processing	3
_	METL	-	3	METL	140 Intro to Welding & Cutting	3
	METL	140 Intro to Welding & Cutting	3		-	·
1	-	Programming		•	Programming	3
	CIS	115 Intro to Programming	3	CIS	115 Intro to Programming	3
Management			Managem		•	
	BUS	110 Creative Problem Solving	3	BUS	110 Creative Problem Solving	3
	ACCT	261 Principles of Accounting I	3	ACCT	261 Principles of Accounting I	3
	Office			Office		
	BUED	100 Basic Keyboard	2	BUED	100 Basic Keyboard	2
	BUED	142 Intro to Wordprocessing	3	BUED	142 Intro to Wordprocessing	3
		OR .			OR	
	CIS	285 Spreadsheet	3	CIS	285 Spreadsheet	3
		ourses to be taken Spring Semester		(Courses to be taken Spring Semester	
		· -	3	RRT	101 History of Railroading	3
	RRT	101 History of Railroading		ENGL	111 Written Communication I	3
	ENGL	111 Written Communication I	3			3
	BUS	100 Intro to Business	3	BUS	100 Intro to Business	J
	HUM	distribution	3			
	SELECT TH	IE COURSES REQUIRED FOR YOUR AREA				
	Diesel Mac	hinist		Diesel Ma		•
	METL	155 Machining Processes	3	METL	155 Machining Processes	3
	Electronics			Electronic		_
EET 103 Electronics Fundamental I		5	EET	103 Electronics Fundamental I	5	
	General Ma	aintenance		General N	/laintenance	
	EET	110 Electronics Survey I	3	EET	110 Electronics Survey I	3
	METL	140 Intro to Welding & Cutting	3	METL	140 Intro to Welding & Cutting	3
Diesel Power			Diesel Po	wer		
	DIES	204 Intro to Hydrualics/Pneumatics	2	DIES	204 Intro to Hydrualics/Pneumatics	2
		214 Intro to Hydrualics/Pneumatics lab	2	DIES	214 Intro to Hydrualics/Pneumatics lab	2
	DIES	217 Hitlo to Hydradics/Flicultatics (ab	_	Welding		,
_	Welding	454 O A Welding December	2	**Eluliy		
	METL	154 Gas Arc Welding Processing	3	A A C T I	150 Chielded Metal Are Welding	3
	METL	150 Shielded Metal Arc Welding	3	METL	150 Shielded Metal Arc Welding	3
	•	Programming		•	r Programming	•
	CIS	155 Programming Level I	3	CIS	155 Programming Level I	3
	Manageme	ent		Managem		
	TECH	100 Industrial Safety/Waste Mgmt.	2	\$160e886000000000000000000000000000000000	285 Spreadsheet	
	BUS	120 Leadership & Quality Mgmt.	3	BUS	120 Leadership & Quality Mgmt.	3

Office	f		Office		
B⊎ED	230 Office Skills	3	BUED	230 Office Skills	3
	SOPHOMORE YEAR			SOPHOMORE YEAR	
	Courses to be taken Fall Semester			Courses to be taken Fall Semester	
RRT	201 Railroad Operations	3	RRT	201 Railroad Operations	3
PHYS	114 Found. of Physical Science	4	PHYS	114 Found. of Physical Science	4
ENGL	112 Written Communication II	3	ENGL	112 Written Communication II	3
	Soc Science/Econ	3		Soc Science/Econ	3
Diesel Ma	achinist		Diesel Ma	chinist	
METL	140 Intro To Welding & Cutting	3	METL	140 Intro To Welding & Cutting	3
METL	155 Machining Processes	3	METL	265 Intro to CNC/CAM	3
Electronic			Electronic	·s	
EET	207 Digital Fundamentals	5	EET	207 Digital Fundamentals	5
General f	Maintenance		General M	laintenance	
DIES	204 Intro to Hydrualics/Pneumatics	2	DIES	204 Intro to Hydrualics/Pneumatics	2
DIES	214 Intro to Hydrualics/Pneumatics lab	2	DIES	214 Intro to Hydrualics/Pneumatics lab	2
Diesel Po	wer		Diesel Po	wer	
DIES	262 Diesel Diagnosis & Repair	2	DIES	262 Diesel Diagnosis & Repair	2
DIES	272 Diesel Diagnosis & Repair lab	4	DIES	272 Diesel Diagnosis & Repair lab	4
Welding			Welding		
			METL	185 Metal Fab I	3
METL	260 Repair & Maintenance Welding	3	METL	260 Repair & Maintenance Welding	3
	r Programming		Computer	Programming	
CIS	255 Programming Level II	3	CIS	255 Programming Level II	3
CIS	270 Systems Analysis & Design	4	CIS	270 Systems Analysis & Design	4
Managen			Managem		
BUED	280 Business Applications OR	3	BUED	280 Business Applications OR	3
CIS	285 Spreadsheet	3	CIS	285 Spreadsheet	3
Office			Office	·	
ACCT	261 Prin. of Accounting I	3	ACCT	261 Prin. of Accounting I	3
BUED	280 Business Applications	3	BUED	280 Business Applications	3
(Courses to be taken Spring Semeste	r	C	Courses to be taken Spring Semeste	ır
RRT	202 Railroad Safety, Envir. & Quality	3	RRT	202 Railroad Safety, Envir. & Quality	. 3
CHEM	111 General Chemistry	3	CHEM	111 General Chemistry	3
SPCH	141 Fund. of Speech	3	SPCH	141 Fund. of Speech	3
HPE	234 First Aid & CPR	2	HPE	234 First Aid & CPR	2
					_
Diesel Ma	SELECT THE COURSES REQUIRED FOR YO	UR AREA CHOICE	D: 1 14	SELECT THE COURSES REQUIRED FOR YOU	UR AREA
METL		2	Diesel Ma		•
Electronic	270 Product Development	3	METL	270 Product Development	3
EET		4	Electronic		
	204 Electronics Fundamental II Maintenance	. 4	EET Concret M	204 Electronics Fundamental II	4
BODY	143 Refinishing	3 ···	BODY	laintenance	3
Diesel Po	<u>-</u>	S	Diesel Por	143 Refinishing	3
DIES	116 Diesel Fuel systems	3	DIES		3
	110 Diesei Fuei systems	3		116 Diesel Fuel systems	3
Welding METL	295 Wold Cartification Proc. I	a ·	Welding	20E Wold Contitiontion Days 1	2
	285 Weld Certification Proc. I	3	METL	285 Weld Certification Proc. I	3
Compute	r Programming 171 Database Level I	3	Computer	Programming	2
CIS		3 3	CIS	171 Database Level I	3 3
	285 Spreadsheet	S		285 Spreadsheet	3
Managen BUS		3 .	Managem BUS		2
Office	271 Legal Envir. of Business	.		271 Legal Envir. of Business	3
BUED	238 Automated Office	3	Office	229 Automated Office	
סטבט	238 Automated Office	S	BUED	238 Automated Office	3

Office

4-Jan-00

Office

Form: RRT AS prog rev form 2000

Form: RRT0AS

MONTANA STATE UNIVERSITY - NORTHERN

College of Technical Sciences Student Education Plan/Program Sheet

RAILROAD MAINTENANCE & OPERATIONS

Associate of Applied Science Degree

63 - 70 Required Program Semester Credits

Program sheet for catalog year:

2000-2001

death Major Title: RAILROAD MAINTENANCE & OPERATIONS ASSOCIATE of APPLIED SCIENCE DEGREE

Major Code: Associate of Applied Science A18

dent	Advisor	College Dean
	•	
	Zijareares courses asea to meer c	
	Indicates courses used to meet Indicates courses used to meet of	
Advisor's initials present for each re No more than 6 credits total of indep	equired course and substitution pendent study (designated X99) may be	e applied toward an A.A.S. degree
• •	gree has a minimum of 60 credits and a	maximum of 72 credits.
sequence for any individual program	· · · · · · · · · · · · · · · · · · ·	25 115.55 110 10001111101000
	onal requirements for graduation. If so, the	
3 , ,,	redits (fulfilled by program requirement be taken at MSU-Northern for an A.A.S.	·
	its (BIOL, CHEM, CIS, ESCI, GSCI, MATI	
	CON,GEOG,HIST,POL,PSYC,SOC,SOSC)	U NECT BUVE TECT
	DRMA, ENGL, FREN, GER, GDSN, HUM, MU	S, NAS, PHIL, SPAN, SPCH)
• • •	ted to meet distribution requirement	
four distribution areas for a total	of 6 distribution credits. Courses req	uired in the student's
·	, legree programs must complete a minim	
Distribution Requirements Comple	ted may not include courses used to	
	D. Computing: CIS 110 or higher le	-
	B. Speech: SPCH 141 or SPCH 142 C. Mathematics: MATH 110, 112, or	
General Education Core -	A. Writing: ENGL 111	
Conoral Education Coro		

Continued next page

08-Mar-00

•			SOPHOMO	RE YEAR			
	 The Art		а	Action/Explanation	Sem.		
لـ	Courses to be taken Fall Semester		Pref/No.	Substitution or Waiver?	Crs.	Grade	Adv.
۲۲	201 Railroad Operations	3					
rHY5	114 Found. of Physical Sci. (Area C)	4					
ENGL	112 Written Communication II	3					
	Gen Ed (Area A-B Hum/Soc Sci)	3					
	SELECT THE	COU	RSES REQUI	RED FOR YOUR AREA CHOICE			
Diesel I	Machinist						
METL	140 Intro To Welding & Cutting	3					
METL	265 Intro to CNC/CAM	3					
Electro	nics			1		1 1	
EET	207 Digital Fundamentals	5					
Genera	l Maintenance				1		
DIES	204 Intro to Hydrualics/Pneumatics	2		1	1		
DIES	214 Intro to Hydrualics/Pneumatics lab	2	b 1000 100		1	 	
Diesel I	· ·		L	<u></u>			
DIES	262 Diesel Diagnosis & Repair	2			1	I	
DIES	272 Diesel Diagnosis & Repair lab	4			+	 	
Welding	•		L		_L	11	
METL	185 Metal Fabrication I	3			Т	T	
METL	260 Repair & Maintenance Welding	3			+		
	ter Programming		L	<u> </u>		<u> </u>	
CIS	255 Programming Level II	3			1	1	
CIS	270 Systems Analysis & Design	4			+		
Manage		•		<u> </u>		l	
BUED	280 Business Applications	3		1	Υ	1	
DOLD	OR	3					
-s	285 Spreadsheet	3	r	T	T	TT	
fice	200 Opicadsheet	J	L			<u> </u>	
ACCT	261 Prin. of Accounting I	3	r	1	1	 	1
BUED	280 Business Applications	3			 		
DOLD			Course	Action/Explanation	Sem.	L	
	Courses to be taken Spring Semester		Pref/No.	Substitution or Waiver?	Crs.	Grade	Adv.
RRT	202 Railroad Safety, Envir. & Quality	2	FIEI/NO.	Substitution of waiver?	CIS.	Grade	Auv.
CHEM	111 General Chemistry	3 3					
SPCH	141 Fund. of Speech	3			+		
i					4		
HPE	234 First Aid & CPR	2	DOES PEST	DED FOR YOUR AREA OUGICE	1		
D		COU	KSES KEQUI	RED FOR YOUR AREA CHOICE			
	Machinist	•					
METL	270 Product Development	3			1		
Electro		4	<u> </u>		· ·	 	 1
EET	204 Electronics Fundamental II	4			1		
	Il Maintenance	_			1		
BODY	143 Refinishing	3	L			<u> </u>	
Diesel		_				1	
DIES	116 Diesel Fuel Systems	3	L			1	
Weldin	-	_		T		, ,	
METL	285 Weld Certification Proc. I	3				<u> </u>	
1 '	ter Programming	_			· r · · · · · · · · · · · · · · · · · ·	,	
CIS	171 Database Level I	3				ļ	
CIS	285 Spreadsheet	3			<u> </u>	11	
Manage			·		_		
JBUS	271 Legal Envir. of Business	3			<u></u>		
ice		_					
IRNED	238 Automated Office	3					

Form: RRT0AS 08-Mar-00