Name _____ Advisor _____

MSU ID# _____

SNOW SCIENCE OPTION

CURRICULUM CHECKING SHEET

(2012-2014 Catalog)

Rubric	#		Core Course Title	PREREQUISITES	CREDITS	SEM. TAKEN	GRADE
FRESHMAN YEAR							
ERTH	101	IN	Earth System Science		4		
ERTH	102	CS	Topics in Earth Science		3		
GPHY	141	D	Geog of World Regions		3		
M	171	Q	Calculus I	M 151 or MATH PLACEMENT IN PAST 12 MONTHS	4		
M	172	Q	Calculus II	M 171	4		
University core or elective					12		
Snow Geography concentration consider Biology 170IN							
			TOTAL		30		
SOPHOMORE YEAR							
CHMY	141		College Chemistry I	ONE YEAR OF HS CHEMISTRY	4		
CHMY	143		College Chemistry II	CHMY 141 or CHMY 151	4		
PHSX	205		College Physics I	HIGHSCHOOL TRIGONOMETRY or M 160	4		
PHSX	207		College Physics II	PHSX 205 or PHSX 220	4		
ERTH	303		Weather and Climate	ERTH 101	3	Fall	
Courses from Core and Snow Geography Emphasis or Snow Mechanics Emphasis or Snow Statistics					11		
			TOTAL		30		
By the end of this year you should have Math and Chemistry Completed							
JUNIOR YEAR							
ERTH	307		Principles of Geomorphology	ERTH 101; ERTH 102 & Junior Standing	4	Fall	
Courses from Core and Snow Geography Emphasis or Snow Mechanics Emphasis or Snow Statistics					26		
			TOTAL		30		
SENIOR YEAR							
ERTH	450	R	Snow Dynamic and Accumulation	JR or SR STANDING ALBILITY TO SKI/BOARD AT INTERMEDIATE LEVEL IN ALPINE TERRAIN; PHSX 205 or PHSX 220; ERTH 101, STAT 216	4	Spr	
GPHY	**441**		**Mountain Geography**	**JR STANDING; ERTH 101**	**4**	**Fall12**	
GEO	**445**		**Glacial Geology**	ERTH 307	**3**	**Spr13**	
Courses from Core and Snow Geography Emphasis or Snow Mechanics Emphasis or Snow Statistics					19		
			TOTAL		30		
			GRAND TOTAL		***120***		

Select one of the following three emphases:

Rubric	#		Core Course Title	PREREQUISITES	CREDITS	SEM. TAKEN	GRADE
Snow Geography							
BIOB	170	IN	Biological Diversity		3	Fall,Spr	
GPHY	121	D	Human Geography		3	Fall	
GPHY	284		Intro to GIS Science and Cartography		3	Fall,Spr	
STAT	332♦		Statistics for Scientists & Engineers	M 172	3	Fall,Spr	
♦ Students with a grade of less than a B in Calculus might consider the following two classes rather than Stat 332							
	STAT	216	Intro to Statistics	C- or better in any 100 level or above M course, or M Placement test w/in past 12 months			
	STAT	217	Intermediate Statistical Concepts	STAT 216			
GPHY	365		Geographical Planning	GPHY 141; GPHY 121	3		
GPHY	384		Advanced GIS & Spatial Analysis	GPHY 284	3	Fall,Spr	
GPHY	411		Biogeography	GPHY 121 or BIOB 170	3	Spr13	
GPHY	484	R	Applied GIS & Spatial Analysis	GPHY 284; GPHY 384	3	Spr	
GPHY	461		Tourism Planning	GPHY 284; GPHY 365	3	Spr14	
ENSC	444		Watershed Hydrology	ERTH 102; ENSC 110; ENSC 245 IN	3	Fall	
STAT	446		Sampling	STAT 332 or STAT 417	3	Fall	
Any 290, 291, 490, 491, 492, 498, or 499 course(s) related to this emaphasis can be taken							
Additional 2 credits of upper division credits needed to graduate							
			TOTAL		***33***		

[See reverse side for other two emphases]

Rubric	#		Core Course Title	PREREQUISITES	CREDITS	SEM. TAKEN	GRADE
SNOW MECHANICS							
EGEN	350		Applied Engineering Data Analysis	CHBE 213; ME 251	2	Fall,Spr	
M	273	Q	Multivariable Calculus	M 172	4	Fall,Spr	
M	274		Intro to Differential Equation	M 172	4	Fall,Spr	
EGEN	201		Statics and Particle Dynamics	PHSX 220; COREQUISITE - M 273	3	Fall,Spr	
EGEN	202		Rigid Body Mechanics	EM 251	3	Fall,Spr	
EGEN	205		Mechanics of Materials	EM 251	3	Fall,Spr	
EGEN	335		Mechanics of Fluids	EM 252; EM 253	3	Fall,Spr	
EGEN	435		Fluid Dynamics	EM 335	3	Spr	
ECIV	312		Structures I	EM 253	3	Fall,Spr	
ECIV	320		Geotechnical Engineering	EM 253	3	Fall,Spr	
ECIV	331		Engineering Hydrology	I&ME 350	3	Fall	
ECIV	332		Engineering Hydraulics	EM 335	2	Fall,Spr	
Any 290, 291, 490, 491, 492, 498, or 499 course(s) related to this emaphasis can be taken							
Additional 5 credits of upper division credits needed to graduate							
			TOTAL		***36***		

NOTE: The snow mechanics program is within two courses (CE 308 - Transportation Engineering and CE 350 - Construction Practice) of qualifying for admission to the MSU Civil Engineering graduate program. Other university's requirements may differ. The prerequesites for the two additional courses are reespecively: CE 201 - Surveying for Transportation Engineering and BUS 201 - Managerial Communication and ME 116 - Engineering Design Graphics for CE 350 - Construction Practice.

SNOW STATISTICS							
M	221		Matrix Theory	M 172	3	Fall,Spr	
GPHY	284		Intro to GIS and Cartography		3	Fall,Spr	
GPHY	384		Advanced GIS and Spatial Analysis	GPHY 284	3	Fall,Spr	
GPHY	365		Geographical Planning	GPHY 141; GPHY 121	3	Spr	
	OR						
GPHY	484	R	Applied GIS and Spatial Analysis	GPHY 384	3	Spr	
ENSC	444		Watershed Hydrology	ERTH 102; ENSC 110; ENSC 245 IN	3	Fall	
ENSC	445		Watershed Analysis	ENSC 444	3	Spr	
STAT	446		Sampling	STAT 217 or STAT 332 or STAT 401	3	Fall	
STAT	410		Methods of Data Analysis I	STAT 332 or STAT 217	3	Fall,Spr	
STAT	431		Nonparametric Statistics	STAT 332 or STAT 217	3	Fall13	
	OR						
STAT	412		Methods of Data Analysis II	STAT 410	3	Spr	
STAT	436		Introduction to Time Series	STAT 410	3	Fall12	
STAT	437		Introduction to Multivariate Analysis	STAT 410	3	Spr13	
GPHY	490		Undergraduate Research		3	Fall,Spr	
	OR						
GEO	499		Senior Thesis		3	Fall,Spr	
Any 290, 291, 490, 491, 492, 498, or 499 course(s) related to this emaphasis can be taken							
			TOTAL		**36**		

NOTE: Statistics is **integral** to snow science and students with and interest in **numerical analysis** are encouraged to take this option.
NOTE: A C- is required in all courses in curriculum to graduate by Regents policy. This includes electives in this curriculum.
Note: This option meets the requirements for a Statistics Minor.

NOTE: A minimum of 120 credits is required for graduation; 42 of these credits must be in courses numbered 300 or above.
All offerings are dependent upon available staffing.