

Name: _____

NORTH DAKOTA STATE UNIVERSITY

College of Science and Mathematics

PHYSICS w/ Optical Science & Engineering Option

Fall 2012

ID: _____

GENERAL EDUCATION REQUIREMENTS - 40 Credits Required					MAJOR REQUIREMENTS - 46 Credits Required				
Course	Number	Course Title	Credits	Grade	Course	Number	Course Title	Credits	Grade
First Year Experience (F)			1 credit		PHYS	251R	Univ. Physics I Recitation	1	
UNIV	189 ¹	Skills for Academic Success	1		PHYS	252R	Univ. Physics II Recitation	1	
Communication (C)			12 credits		PHYS	330 or 455	Intern Mechanics (MSUM) OR Classical Mechanics (NDSU)	4 or 3	
ENGL	110	College Composition I	3		PHYS	350	Modern Physics	3	
ENGL	120	College Composition II	3		PHYS	360	Modern Physics II	3	
COMM	110	Fundamentals of Public Speaking	3		PHYS	361 OR 370	Electromag. Theory OR Electromag. Theory (MSUM)	3 OR 4	
ENGL		(Upper-Division Writing)	3		PHYS	370	Intro to Computational Physics	3	
Quantitative Reasoning (R)			3 credits		PHYS	411/411L	Optic for Scientists & Engineer/L	3/1	
MATH	165	Calculus I	4		PHYS	413	Lasers for Scientists & Engineers	3	
Science & Technology (S)			10 credits		PHYS	415	Elements of Photonics	3	
PHYS	251/251L	University Physics I/L	4/1		PHYS	462	Heat & Thermodynamics	3	
PHYS	252/252L	University Physics II/L	4/1		PHYS	485	Quantum Mechanics I	3	
Humanities & Fine Arts (A) (Max of 3 cr in FA performance)			6 credits		PHYS	486	Quantum Mechanics II	3	
			3		PHYS	489	Sr. Project/Capstone	3	
			3		ECE OR CSCI	173 OR 160	Intro to Computing Computer Science I	3 OR 4	
Social & Behavioral Sciences (B)			6 credits		EE	206	Circuit Analysis I	4	
			3		RELATED REQUIRED COURSES - 25 Credits Required				
			3		MATH	166	Calculus II	4	
Wellness (W)			2 credits		MATH	265	Calculus III	4	
			2		MATH	266	Intro to Differential Equations	3	
Cultural Diversity (D)					(A coreq of MATH 128, 129, or 429 is required)				
Global Perspectives (G)					Choose Two 400 Level MATH Courses: 6 Cr Required (452, 481 or 488 recommended)				
COLLEGE REQUIREMENTS for a BS or BA Degree									
<p>The College of Science & Mathematics requires an additional 6 credits in Humanities or Social Sciences for the BS degree and an additional 12 credits for the BA degree and two years proficiency of a modern foreign language.</p>					CHEMISTRY: 8 Credits Required (150 sequence recommended)				
BA Degree Requirements:					CHEM	150/160 or 121/121L	Principles of Chemistry I or General Chemistry I	3/1	
2nd Yr Lang Proficiency					CHEM	151/161 or 122/122L	Principles of Chemistry II or General Chemistry II	3/1	
HUM or Soc Sci			3		Recommended Electives				
HUM or Soc Sci			3		ECE	311	Circuit Analysis II	4	
HUM or Soc Sci			3		ECE	417	Optical Signal Transmission	3	
BS Degree Requirements:					ECE	321	Electronics I	5	
HUM or Soc Sci			3		ECE	483	Instrumentation for Engineers	3	
HUM or Soc Sci			3		Electives: Up to 4 Credits Required to Reach 122				
<p>¹Students transferring in 24 or more credits do not need to take UNIV 189.</p> <p>A grade of 'C' or better is required for all PHYS prefix courses.</p>									
					Curriculum continued on page two.				

UNIVERSITY GRADUATION REQUIREMENTS		PROGRAM NOTES/COMMENTS
Residency at NDSU (15 cr. @ NDSU):	36 Credits	<p>Courses taken to fulfill gen ed, college and major requirements may NOT be taken P/F</p> <p>ALL COURSES ON THIS CURRICULUM ARE REQUIRED FOR THE MAJOR</p>
Credits at 4-year University:	60 Credits	
Courses numbered 300+ (Min. 15 cr @ NDSU):	37 Credits	
Total Credits Required:	122 Credits	