

# PRECISION AGRICULTURE TECHNOLOGY & MANAGEMENT

## Precision Agriculture Option

Department of Agricultural and Biosystems Engineering - North Dakota State University

**FALL 2023\***

Student: \_\_\_\_\_ Student ID # \_\_\_\_\_ Specialization/Minor \_\_\_\_\_ Advisor \_\_\_\_\_

	FALL					SPRING				
	Course	Crs	Grade <sup>1</sup>	300/400 Level <sup>2</sup>	Gen Ed	Course	Crs	Grade <sup>1</sup>	300/400 Level <sup>2</sup>	Gen Ed
Freshman (<27 crs)	PAG 115 <i>Introduction to Precision Ag</i>	2				CSCI 114 or TL 116 <i>Micro Pkg/Bus Use</i>	3			S
	PAG 115L <i>Introduction to Precision Ag Lab</i>	1				ENGL 120 <i>College Composition II</i>	3			C
	ENGL 110 <sup>3</sup> <i>College Composition I</i>	3			C	PHYS 120 <i>Fundamentals of Physics</i>	3			S
	MATH 103 <sup>4</sup> <i>College Algebra</i>	3				SOIL 210 or ANSC 223 <sup>5</sup> <i>Intro to Soil Sci/Intro to An. Nutri</i>	3			S
	COMM 110 <i>Fund of Public Speaking</i>	3				Elective	3			
	PLSC 110 or ANSC 114 <i>Wild Food Crops/Intro to An Sci.</i>	3			S/G					
	<b>15</b>					<b>15</b>				
Sophomore (27-59 crs)	ASM 225 <i>Computer Appl in ASM</i>	3				PAG 315 <i>Electronic Systems in Prec. Ag</i>	3			
	CHEM 121 <i>General Chemistry I Lab</i>	3				PAG 348 <i>Ag Technology Expo</i>	1			
	CHEM 121L/PHYS 120L <i>Choose either lab course</i>	1				SOIL 322 or ANSC 240 <i>Soil Fert/Meat Animal Eval</i>	3			
	PAG 215 <i>Mapping of Precision Ag Data</i>	3				SOC/BEHAVIORAL	3			
	GEOG 455 <i>Intro to GIS</i>	4				PLSC 225 or ANSC 220 <i>Prin of Crop Prod/Livestock Pro</i>	3			
						Elective	3			
	<b>14</b>					<b>16</b>				
Junior (60 - 89 crs)	ASM 354 <i>Electricity and Electronic Appl</i>	3				PAG 454 <i>Princ &amp; Appl of Precision Agric</i>	3			
	PPTH 324 or ANSC 218 <i>Intro to PPTH/Anat. &amp; Phys of An</i>	3				<b>Upper-Level Writing</b> (see side list)	3			
	AGEC 242 <i>Intro to Ag Management</i>	3				<b>Wellness</b>	2			W
	<b>HUM/FINE ARTS</b>	3			A	Elective	3			
	Elective	3				Elective	3			
	<b>15</b>				Complete your Degree Audit this semester	<b>14</b>				
Senior (90 + crs)	STAT 330 <i>Introductory Statistics</i>	3				PAG 475 <i>Prec Ag Systems (capstone)</i>	2			
	ASM 378 <i>Machinery Princ &amp; Mgmt</i>	3				SOC/BEHAVIORAL	3			B
	<b>HUM/FINE ARTS</b>	3			A/D	Elective	3			
	Elective	3				Elective	3			
	Elective	3				Elective	4			
	<b>15</b>				Complete your Application for Graduation by Feb. 1st	<b>15</b>				

Summer Required Courses		
Course	Crs	Term
PAG 496 <i>Field Exp./Internship</i>	1	So.

General Education Electives			
See <a href="http://www.ndsu.edu/registrars/gened">www.ndsu.edu/registrars/gened</a> for approved courses.			
Gen Ed	Course	Crs	Grade
A		3	
A		3	
B		3	
B		3	
C	ENGL 320, 321, 324, 459 or approved course	3	
D <input type="checkbox"/>	(Double-count with A above)	3	
G <input type="checkbox"/>	PLSC 110	3	
W		2	

Electives - 31 cr. total		
Select courses in consultation with your advisor.		
Course	Crs	Grade
<b>Program Electives - 21 credits required, 31 total</b>		
(May select any courses listed on back)		
<b>Free Electives - 10 credits allowed</b>		

<b>Total Credits</b>
<b>120</b>

\*120 minimum total credits required. The last 30 credits must be earned in residence at NDSU.

\*A minor may require more than 16 credits, therefore, select electives apply. Check with the minor department for current requirements/changes and assignment of a minor advisor.

\*PAG students must maintain a 2.5 CGPA in required PAG courses.

\*Students must register for an internship in PAG the semester it is being taken.

<sup>1</sup> Use this column to tally grades; use "T" for transfer courses and "IP" for courses currently in progress.

<sup>2</sup> Use this column to tally 36 credits of 300/400 level courses required for graduation.

<sup>3</sup> First year students with a composite ACT score ≥ 21 should register for ENGL 120 (unless transfer credit for ENGL 120 is received). If ENGL 120 is completed with a grade of "C" or better, credits will be awarded for ENGL 110 with a passing grade (P). For more details on NDSU's English Placement process, go to [http://english.ndsu.edu/placement\\_guidelines\\_writing\\_courses/](http://english.ndsu.edu/placement_guidelines_writing_courses/).

<sup>4</sup> MATH 103 or higher.

<sup>5</sup> If a student chooses to take both "or" courses, one will count towards the requirement, and the other will count as an elective.

\*As a student at NDSU, it is your responsibility to know the requirements of your degree. To ensure all degree requirements are met, meet with your academic advisor regularly and follow your Academic Requirements Report found on Campus Connection. Required PAG courses are typically offered only once per year and all course offerings are subject to change.

## Approved Course List for Program Electives

Additional courses may be acceptable. Please discuss with your advisor.

ACCT 201	Elements of Acct II	BIOL 150	General Biology I	GEOG 456	Adv. GIS	SOIL 444	Soil Genesis & Survey
AGEC 244	Agricultural Marketing	BIOL 150L	General Biology I Lab	GEOG 470	Remote Sensing	SOIL 447	Microclimatology
AGEC 246	Intro to Ag Fincnce	BUSN 340	International Business	GEOG 480	GIS Pattern Anlys & Model	SOIL 465	Soil & Plant Analysis
ANSC 320	Dairy cattle Selection	BUSN 487	Managerial Economics	IME 335	Welding Technology	SOIL 480	Soils & Pollution
ANSC 323	Fundamentals of Nutrition	COMM 212	Interpersonal Communication	MGMT 320	Foundations of Mgmt		
ANSC 330	Comp. Meat Grading/Evaluation	COMM 216	Intercultural Communication	MRKT 320	Foundations of Marketing		
ANSC 331	Comp. Livestock Evaluation	COMM 308	Business & Professional Speaking	ME 311	Intro to Aiviation		
ANSC 357	Animal Genetics	CSCI 479	Intro to Data Mining	ME 312	Intro to Flight		
ANSC 463	Physiology of Reproduction	ECON 105	Elements of Economics	ME 313	Commercial Ground School		
ANSC 470	Applied Nutrition	ECON 341	Intermediate Microeconomics	NRM 452	Mgmt Nat. & Rangeland using GIS		
ASM 115	Fund of Ag Systems Mgmt	ECON 343	Intermediate Macroeconomics	PLSC 315	Genetics		
ASM 125	Fabrication & Construction Tech	ENT 210	Insects, Humans and the Enviro	PLSC 315L	Genetics Lab		
ASM 264	Natural Resources Mgmt	ENT 350	General Entomology	PPTH 454	Diseases of Field & Forage Crops		
ASM 264L	Natural Resources Mgmt Lab	ENT 360	Economic Entomology	SOIL 217	Intro to Meteorology & Climatology		
ASM 373	Tractors & Power Units	ENT 410	Intergrated Mgmt of Pests	SOIL 351	Soil ecology		
ASM 374	Power Units Lab	ENT 470	Insect Ecology	SOIL 410	Soils and Land Use		
ASM 429	Hydraulic Power Principles & App	FIN 320	Principles of Finance	SOIL 433	Soil Ecohydrology & Physics		

## Potential Minors

**Check with the minor department for current requirements/changes and assignment of a minor advisor. Minors in other disciplines are available.**

**Check minor requirements with the minor department no later than the beginning of the junior year. The minor department must certify completion of requirements before a minor will be recorded on the transcript.**

Agricultural Systems Mangement Minor (16 credits)	Economics Minor (18 -19 credits)	Crop & Weed Science Minor (18 credits)
ASM 264-3 ASM 354-3 ASM 373 or ASM 378 - 3	ECON 201-3 ECON 202-3 ECON 341-3 or BUSN 487-4 ECON 343-3	PLSC 110-3 PLSC 225-3
Select 7 credits from the following: ASM 225-3      ASM 234-1 ASM 323-3      ASM 348-1 ASM 374-3      ASM 429-3 ASM 475-2      ASM 496-1 (Internship)	3 credits of 300/400 level ECON AND 3 credits of 400 level ECON	6-7 cr. (2 courses required): PLSC 315/L - 3/1 PLSC 320-3 PLSC 323-3 5-6 cr. of the following: PLSC 300/400 level cr. PLSC 215-1 SOIL 210-3 ENT 350-3 PPTH 324-3
Business Administration Minor (24 credits)	Animal Science Minor (16 credits)	Agribusiness Minor (18 credits)
ACCT 102-3    or    ACCT 200 & 201 - 6 ECON 105-3    or    ECON 201 & ECON 202 - 6	ANSC 114-3      ANSC 223-2 ANSC 220-3      ANSC 240-3	ECON 201-3 2 of the following (6 credits) AGEC 242-3      AGEC 244-3      AGEC 246-3
2 of the following (6 credits) FIN 320-3 MGMT 320-3 MRKT 320-3 AND 12 credits of 300/400 BUSN, FIN, MGMT, MRKT courses, including MIS 370, ENTR 366 & 385, LEAD 305 & 325	Must include 1 of the following courses: ANSC 300-3      ANSC 370-3 ANSC 314-3      ANSC 444-3 ANSC 323-3      ANSC 463-3 ANSC 324-3      ANSC 487-3 ANSC 340-3 ANSC 357-3	Remaining credits may come from those listed or the following: ANSC 230-2      ANSC 426-2 ANSC 231-2 ANSC 232-2 ANSC 344-3 ANSC 380-2
		At least 9 add'l cr. ECON 341 or from any 300/400 level AGEC course (excluding AGEC 397 & AGEC 496)