

Nebraska College of Technical Agriculture

Assessment of Program Outcomes Summary Report 2023-2024

Part I – General Education

Part II – Ag Production Systems

Part III – Agribusiness Management

Part IV – Veterinary Technology

Part V – Program Outcome Course Matrixes

Part I – General Education Outcomes Assessment

A. General Education Outcomes

Upon completion of the Associate of Applied Science degree students should be able to demonstrate the following skills and abilities (as defined within the Association of American Colleges & Universities VALUE Rubrics):

1. **Written Communication.** Written communication is the development and expression of ideas in writing. Written communication involves learning to work in many genres and styles. It can involve working with many different writing technologies, and mixing texts, data, and images. Written communication abilities develop through iterative experiences across the curriculum.
2. **Critical Thinking.** Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.
3. **Oral Communication.** Oral communication is a prepared, purposeful presentation designed to increase knowledge, to foster understanding, or to promote change in the listeners' attitudes, values, beliefs, or behaviors.
4. **Quantitative Literacy.** Quantitative Literacy (QL) – also known as Numeracy or Quantitative Reasoning (QR) – is a "habit of mind," competency, and comfort in working with numerical data. Individuals with strong QL skills possess the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations. They understand and can create sophisticated arguments supported by quantitative evidence and they can clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate).
5. **Problem Solving.** Problem solving is the process of designing, evaluating and implementing a strategy to answer an open-ended question or achieve a desired goal.
6. **Civic Engagement.** Civic engagement is "working to make a difference in the civic life of our communities and developing the combination of knowledge, skills, values and motivation to make that difference. It means promoting the quality of life in a community, through both political and non-political processes." (Excerpted from *Civic Responsibility and Higher Education*, edited by Thomas Ehrlich, published by Oryx Press, 2000, Preface, page vi.) In addition, civic engagement encompasses actions wherein individuals participate in activities of personal and public concern that are both individually life enriching and socially beneficial to the community.
7. **Intercultural Knowledge and Competence.** Intercultural Knowledge and Competence is "a set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts." (Bennett, J. M. 2008. Transformative training: Designing programs for culture learning. In *Contemporary leadership and intercultural competence: Understanding and utilizing cultural diversity to build successful organizations*, ed. M. A. Moodian, 95-110. Thousand Oaks, CA: Sage.)

B. Assessment Results

Written Communication and Critical Thinking

	ENG 1503 Technical Communication I	ENG 1903 Writing & Inquiry
Students	44	2
% of SLOs met	88%	100%

The Writing & Inquiry course is the English course for transfer students. Also, many students completed this course while in high school, thus the low enrollment. A policy change was made regarding this cohort of students in which the requirement of an ACT of 18 or taking the Basic/Reading and Writing Course as a prerequisite was removed. The data is essentially equivalent to prior assessment years, thus the policy change shows no negative impact on student success.

Oral Communication

	AED 1023 Interpersonal Skills for Leadership	SPC 1103 Sales Communications	SPC 1113 Public Speaking
Students	42	NA	12
% of SLOs met	94%	NA	88%

Quantitative Literacy

	MTH 1403 Agricultural Math	VTS 1313 Math for Vet Techs
Students	37	40
% of SLOs met	92%	71%

The Vet Tech Math continues to be a struggle, which in part illustrates the observation made by many faculty that a greater percentage of our students struggle with math. The instructor made note of several ideas for improvements that will be initiated to assist with student achievement of these outcomes. Ag Math has a higher achievement level, but similar concerns are noted by the instructor.

Problem Solving

	ASI 1024 Fundamentals of Animal Biology	BIO 1313/BIO 1321 Plant Science & Lab	CHM 1014 Intro to Chemistry	VTS 1604 Intro to Lab Science
Students	38	23	10	30
% of SLOs met	82%	96%	86%	92%

Students achieved a much higher success rate of learning outcomes in the Plant Science course than in the previous year (80%); evidence that changes made by the instructor had a significant impact. The chemistry course presents the challenge of a lecture format over a Zoom video link due to our partnership with Mid-Plains. This format is not ideal for our students and will occasionally contribute to less success of learning outcomes. A new instructor was tasked with the Animal Biology course and noted multiple changes in the SLO report to improve student learning.

Civic Engagement, Intercultural Knowledge and Competence

	PSY 1103 Human Relations	AGR 2823 Intro to Global Ag and Natural Resources
Students	30	36
% of SLOs met	94%	94%

Students are meeting these outcomes at a high level. A curriculum change of adding 2 new courses as additional choices for this degree outcome will be available beginning fall 2024. The courses are ENG 2213 Film Genre and POL 1103 American Government. This change was made to provide more flexibility for students, particularly transfer students. Most non-transfer takes pursuing agricultural degree options continue to select Intro to Global Agriculture.

Part II - Ag Production Systems Degrees and Certificates Assessment

A. Associate of Applied Science (AAS) Program Level Student Learning Outcomes

Students pursuing Associate of Applied Science degrees in Agronomy, Diversified Agriculture, Ag Equipment, Livestock, or Equine Management options are expected to meet the following learning outcomes upon completion of their degrees.

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information to reach sound logical conclusions in their chosen career pathway.
3. Students will be able to apply economic principles of accounting, marketing and budgeting to agricultural enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study. (Technical Competence)
 - a. Agronomy - Students will be able to apply economically sound and environmentally sustainable agricultural crop and livestock production practices in the Great Plains.
 - b. Ag Equipment - Students will be able to safely operate, troubleshoot and maintain agricultural equipment.
 - c. Animal Science - Students will be knowledgeable in the areas of modern livestock husbandry and management practices.

B. Assessment Procedures for AAS Degree Outcomes

1. Outcome #1 – effective oral and written communication.
 - a. General Education assessment report presented in Part I.
2. Outcome #2 – gather, assimilate, and process information.
 - a. Assessed by the AGR 2983 Capstone course taken the student’s last semester.
3. Outcome #3 – economic, accounting, marketing, and budgeting principles
 - a. Ag Business assessment report in Part III
4. Outcome #4 - Technical Competence
 - a. Each degree option has a group of required courses that contain detailed learning outcomes related to the course. The student learning outcome assessment reports in these courses are utilized to assess this program outcome.
 - b. Internship Employer Survey Results

Assessment Rubric

Attributes	Level of Performance				
	Unacceptable	Novice	Standard	Practitioner	Expert
The ability to gather, assimilate and process information to reach sound logical conclusions	Student makes little or no attempt to utilize resources.	Student acquires a general understanding of resource utilization.	Student carries out the utilization of resources within best practices.	Student demonstrates ability to utilize resources to process and apply information.	Student demonstrates ability to utilize innovative resources; and provide application of resources to complex problems.
Demonstrate technical competence in agricultural production.	Student demonstrates little to no technical competence.	Student acquires general technical competence.	Student acquires broad technical competence skills and can demonstrate ability in a variety of applied work settings.	Student's insight and technical competence demonstrates sound knowledge, talent, and ability across disciplines and techniques.	Student's technical and professional competence is superior to peers.

C. Assessment Results for AAS Degree Outcomes

Outcome #1 – effective oral and written communication.

Data are presented and discussed in the General Education report in Part I. Students are meeting the oral and written learning outcomes; however, most are achieving this at a medium level. Many agricultural courses have writing assignments and assessment as well as “professionalism” communication training. These learning experiences ensure that professional based oral and written communication learning occurs.

Outcome #2 - gather, assimilate, analyze, interpret and apply information.

AGR 2982 Capstone

Achievement Level	2022	2023	2024
Expert	40%	45%	18%
Practitioner	38%	27%	46%
Standard	12%	15%	26%
Novice	10%	2%	3%
Unacceptable	0	11%	7%
Total # of Students	40	44	39

A major component of Capstone includes developing and presenting a farm/ranch or other agricultural enterprise business and production plan. As such, detailed financial and technical information must be gathered. The 2024 class switched to a 2-credit hour version that has brought more focus on professional development rather than just completing a enterprise or farm/ranch production plan. Data is similar to the previous years and previous model. Overall, the projects verify a need for emphasizing the ability to plan and utilize resources available for achieving professional success, particularly in understanding cash flow.

Outcome #3 – economic, accounting, budgeting, and marketing principles

Assessment of this outcome presented in Part III, Agribusiness Management Systems report.

Outcome #4 – Technical Competence

Agronomy Technical Competence Assessment

	AGR 1203 Principles of Soils	AGR 2304 Soil Fertility	AGR 2353 Pest Mgmt.	AGR 2383 Irrigation Mgmt.	AGR 2403 Crop Mgmt.	AEQ 2323 Precision Farming
# of Students	20	11	18	10	12	13
% of course outcomes met	98%	98%	89%	84%	92%	95%

Overall, students continue to meet most of the outcomes in these courses that provide the essential knowledge and skill training in Agronomy. Most students are exhibiting a strong grasp of agronomic management principles and outcome achievement was similar to previous years. Outcomes in Soils and Soil Fertility were much improved as course changes improved understanding of soil chemical related properties and in the case of Soil Fertility also grasping calculations related to fertilizers. Irrigation Management were lowest and related to 2 students greatly struggling with calculations for scheduling irrigation.

Students continue to provide feedback that more hands-on learning is desired. Field trips to industry and University of Nebraska research locations are being actively incorporated into multiple classes to provide hands-on learning in key targeted topics during the fall and spring semesters. Additionally, a combined Internship and agronomy option will be provided in the summer. The model will be 4 days of internship with regional agronomy industries and 1 day of applied, experiential course education over a 12-week summer session. Two courses will be taught in this structure: Pest Management and Precision Farming. The primary location for instruction will be the Stumpf International Wheat Center. This will first occur in summer 2024; thus data is yet to come.

Crop Practicum Courses (AGR 1091, 1591, and 2091)

Achievement Level*	Crop Practicum I	Crop Practicum II	Crop Practicum III
Expert	6	8	0
Practitioner	6	4	2
Standard	0	0	6
Novice	0	0	0
Unacceptable	0	0	0
Total # of students	12	12	8

The three course Crop Practicum program is required for agronomy students and is also taken by some Diversified Ag students as an elective. It is a program that provides students the opportunity to make management decisions on one of the crop fields on the college's farm laboratory. Each course has a primary project that the students complete, which includes collecting and analyzing crop production and financial information that are critical for producing a crop profitably. This data represents the same

cohort of students as they completed all 3 courses over their 2 years. Students achieved learning outcomes at a very high level and as a group were the most engaged of any group thus far.

More detailed structure and guidance is necessary for improved student learning. Particularly apparent is improving the foundational knowledge in the first course and successfully implementing that knowledge in the second course. Greater emphasis on costs and marketing are needed in plan development.

Livestock Management Technical Competence Assessment

Required Courses

	ASI 1253 Nutrition	ASI 1303 Animal Management	ASI 1213 Livestock & Carcass Eval.	ASI 2383 Large Animal Diseases	ASI 2753 Beef Production
# of Students	59	54	33	19	33
% of Learning Outcomes Met	97%	85%	94%	93%	86%

Elective Courses

Livestock Industry	ASI 2253 Feeds & Feeding	ASI 2303 Range Management	ASI 2353 Livestock Breeding	ASI 2313 Ration Formulation	ASI 1203 Feedlot Systems
# of Students	30	14	17	12	25
% of Learning Outcomes Met	93%	100%	88%	100%	91%

Students are meeting livestock management technical outcomes at a very high level, which matches previous years. Faculty continue to increase experiential learning activities across the curriculum that better incorporates student learning with animal production on NCTA's farm laboratory. Animal production capacity was also enhanced through the addition of the Leu Ranch property about 20 miles from campus providing 2000 + acres of rangeland. Practicum and work-study learning has also increased.

Equine Management Technical Competence Assessment

	ASI 2433 Equine Industry Mgmt I	ASI 2443 Equine Industry Mgmt II	ASI 1442 Equine Practicum I	ASI 2442 Equine Practicum II	ASI 2611 Equine Repro I	ASI 2621 Equine Repro II	ASI 2412 Equine Marketing Techn.
# of Students	9	13	16	6	22	18	9
% of Learning Outcomes Met	100%	97%	90%	100%	100%	100%	83%

Students are meeting equine management technical outcomes at a very high level, which matches previous years. Faculty continue to increase experiential learning activities in all courses that better facilitates real-world student learning. Efforts continue to enhance access to animal resources while

maintaining a safe learning environment. Active partnerships with local equine industry and care specialists also continue, providing key student learning opportunities.

Diversified Ag Technical Competence Assessment

Students that are pursuing the Diversified Ag Option combine courses in agronomy with courses in animal science. Animal Management and Principles of Soils are required and then students take a minimum of 2 agronomy and 2 animal science electives. This data are included with the previous agronomy and livestock management technical knowledge assessment sections.

Ag Equipment Management Technical Competence Assessment

Currently, the core of the curriculum in ag equipment management is welding and irrigation technology.

Irrigation Technician Certificate Technical Competence

	AEQ 1501 Intro to Electric Code	AEQ 1503 DC Circuits	AEQ 1513 AC Circuits	AEQ 1171 Industrial Safety	AEQ 2404 Mechanized Irrigation
# of Students	7	9	8	7	5
% of outcomes met	89%	100%	100%	97%	86%

Most of the students pursuing this certificate are also pursuing an associate’s degree. One Reinke dealership sponsored student was in this class. Course enrollment is below sustainable numbers, which has been a growing concern. The NCTA-Reinke Agreement is being updated and includes additional discussions of combined recruiting efforts. Student achievement of SLO’s was at a very high level, emphasizing that applied, hand’s-on teaching greatly assists with student learning. Upgrades in lighting and electrical power in the Irrigation Technology Laboratory have enhanced student learning.

Welding Certificate Technical Competence

	AEQ 1203 Welding	AEQ 1313 Intermediate Welding	AEQ 2213 Advanced Welding	AEQ 1171 Industrial Safety
# of Students	14	5	4	6
% of outcomes met	90%	100%	100%	97%

Since the welding certificate requires at least 3 semesters to complete the required courses, students are also working on completing APS associate degrees. Students are meeting course outcomes at a very high level. Four students took the AWS D.1. exam, and all four passed. A new robotic welder has been obtained and a new metal fabrication course has been added to extend the learning opportunities and possible AWS certifications. Not being able to complete the certification over 1 academic year has prohibited some interested students in pursuing the program. Course schedule modifications are being considered.

D. Internship Employer Survey Results for Agricultural Production Systems Students

Scale: 5 = excellent, 4 = Above average, 3 = Average, 2 = Below Average, 1 = Very Poor

	2016 to 2020			
	Average	2021 Average	2022 Average	2023 Average
Appearance	4.1	4.4	4.2	4.3
Dependability/Supervision	4.0	4.2	3.7	4.1
Cooperation/Attititude	4.2	4.5	4.0	4.2
Respect/Personality	4.3	4.6	4.2	4.5
Communication	3.7	3.9	3.6	4.1
Attendance/Punctuality	4.3	4.4	4.4	4.4
Quality of Work/Safety	4.2	4.5	4.0	4.1
Supervisory Ability/Leadership	3.6	3.9	3.5	3.8
Technical Knowledge	4.0	4.0	4.0	4.0
Overall Employability Rating	4.1	4.5	4.1	4.3
Number of Students Evaluated		24 students	23 Students	33 students

The overall employability of our students is rated at above average to excellent. Communication skills have continued to be the biggest deficiency, which reflect comments made frequently by employers. This characteristic has also been frequently observed by faculty and staff regarding the students. It is a consistent characteristic of this generation of students. Supervisory ability and leadership will always likely be a lower rating considering the age and experience of our students.

Since our programs are career driven, employer feedback is an important part of evaluating our students. Most employers acknowledge that they would hire the student permanently if available. Efforts will be continued in all classes to relate instructor-student communication to necessary career-based communication. Continued efforts to reinforce the importance of being a professional, maintaining integrity and a strong work ethic will be addressed in coursework through more industry and alumni interactions.

E. Assessment of Associate of Science (Transfer) degree options of Agronomy, Mechanized Systems Management, Animal Science and Ag Education.

- Students will demonstrate the knowledge required to effectively transition to a bachelor’s degree in their chosen field of study.

NCTA Graduation Year	Total # of Students	# of Students to UNL	Successful B.S. Degree Completion
2016	4	3	4
2017	7	5	7
2018	10	10	10
2019	8	7	6
2020	8	7	7
2021	4	4	4
2022	3	2	Degrees in Progress
2023	9	8	Degrees in Progress

Specific technical knowledge is included in the agricultural course assessments provided previously. Achievement of the learning outcome above is assessed by completion of their B.S. degree. Students are completing their B.S. degrees at a 93% graduation rate. The 3 non-completers would be students that were affected by COVID restructuring of course offerings.

Summary – Assessment Driven Changes in Ag Production Systems

Curriculum Revisions

The previous year represented two major curriculum changes that began in the 2023-24 catalog year.

- 1) Develop a uniform number of total credit hours for all options within each degree.
 - a. 60 credit hours for Associate of Science (transfer) degree options.
 - b. 67 credit hours for the Associate of Applied Science degree options.
- 2) Develop a uniform APS core of business and internship courses.

The 67 credit hours was a reduction of 3 to 8 credit hours, depending on the option. Students in all options moving forward will have an average of 16 credit hours to complete over 4 semesters (64 + 3 summer internship). Initial indications are very positive for these changes during advising sessions as lower loads each semester are occurring providing students more flexibility and success.

The Associate of Science (Transfer) degree options in APS were updated and revised to improve articulation to UNL and other 4-year universities. All options were made 60 credit hours total, which meant reducing AS Agronomy and Mechanized Systems Management from 64 credits. All major universities in our region are only accepting 60 transfer credits, so this again benefits the students. Changes will be in the 2024-45 Catalog.

Part III – Agribusiness Management Systems Assessment

A. Agribusiness Management Systems Program Learning Outcomes

Students majoring in Agribusiness Management Systems are expected to meet the following learning outcomes upon completion of their degrees.

- 1) Demonstrate computer skills
- 2) Apply economic information to real world situations
- 3) Think critically and demonstrate problem-solving skills
- 4) Read, comprehend, and analyze basic financial statements and demonstrate basic accounting skills
- 5) Effectively communicate in both an oral and written format
- 6) Demonstrate skills enabling them to work effectively as individuals and in groups

B. Assessment Procedures for Degree Outcomes

- 1) Course Competency: Expected learning outcomes are measured in several prominent courses within the program
- 2) Capstone Course: ABM 2903: Entrepreneurship is required of all the students in the AMS Management program. In this course students develop a portfolio of a business plan for an

entrepreneurial venture and present their proposed venture to judges from both industry and academics.

- 3) Internship Employer Surveys: Students receiving a degree with a management option is required to obtain an experiential learning experience through an internship.

C. Assessment Results

	ECN 1103 Intro to Ag Econ	ECN 1203 Microeconomics	ABM 2963 Farm Records	ACT 1103 Accounting I
Students	51	27	70	6
% outcomes met	91%	90%	85%	96%

	ABM 2403 Ag Finance	MGT 2103 Mgmt Concepts	ABM 2854 Farm/Ranch MGT	ABM 2004 Internship	MKT 2203 Ag Marketing
Students	15	NA	38	4	29
% outcomes met	93%	NA	98%	100%	100%

Agribusiness Management students are successfully meeting these outcomes overall. The Farm Records course was offered again as an alternative to Accounting I for all the Ag Production Systems students. The course provides more applied accounting skills related to farm and ranch production. Data do indicate that APS students need more growth in the basics of monitoring cash flow and keeping balance sheets.

Due to a retirement and staffing shortages, Entrepreneurship was not offered in spring 2024. Students needing Entrepreneurship took a similar course in Ag Production Systems called Farm/Ranch Capstone. This data is presented in the previous section, which indicates overall students are meeting the outcome, but growth in utilizing resources and understanding cash flow is needed.

D. Agri-Business Internship Employer Surveys

Scale: 5 = excellent, 4 = Above average, 3 = Average, 2 = Below Average, 1 = Very Poor

	2019-20	2020-21	2021-22	2022-23	2023-24
Intern's Appearance	5	5	5	4.5	4.4
Dependability	5	5	5	4.5	4.6
Ability to work with others	5	5	5	4.8	4.6
Communication Ability	4	4	4	4	3.8
Critical Thinking Skills	4	4.5	4	4.2	4.1
Cooperation/Attitude	4.5	4.5	4	4.6	4.5
Creativity	4.5	4.5	4	4.2	4.2
Attendance and Punctuality	5	5	5	4.4	4.3
Quality of Work and Safety	4	4.5	4	4.6	4.5
Supervisory Ability/Leadership	5	5	5	3.9	3.8
Overall Rating	4.3	4.5	4.5	4.6	4.5
Number of Students	7	3	1	4	4

Analysis: The results of the survey for this student reflected positive assessments of the NCTA student at the internship position. Internships allow students to apply the knowledge and theory they have learned in the classroom to a professional workplace. Internships also allow students to

make connections in the professional fields they may be considering as career paths. A primary benefit to the student is that it provides “relevant” work experience.

Part IV – Veterinary Technology Assessment

A. Veterinary Technology Systems Program Learning Outcomes

Upon successful completion of the Veterinary Assistant Option, students will be able to demonstrate proficiency in motor skills, critical thinking, entrepreneurship, and clinical application skills at the veterinary assistant entry level in the following areas

- A. Office and Hospital Procedures
- B. Pharmacy and Pharmacology
- C. Nursing Skills
- D. Anesthesia
- E. Radiology
- F. Surgical Prep and Nursing
- G. Parasitology, Hematology and Clinical Pathology
- H. Animal Husbandry, Handling, Behavior and Restraint
- I. Anatomy and Physiology

B. Assessment Procedures for Degree Outcomes

1. Technical Knowledge Competency
 - a. Technical knowledge is directly measured in several key courses and tracked in the AVMA approved Thesalthouse electronic software tracking system.
 - b. Final Assessment is measured with the administration of a written and practical test done at the end of the student’s last spring semester (Exit Exam).
2. Internship Employer Surveys
 - a. The results from these surveys provide feedback on the student’s technical knowledge and skills from the employer’s perspective.
3. Technician Option: Passing Rate for new graduate, first time test takers for the Veterinary Technician National Exam
 - a. The results from this national test indicate competency level of the NCTA Veterinary Technician Program compared to other Vet Tech Programs. AVMA requirement for Program accreditation is a pass rate above 50%.

C. Assessment Results

AVMA Essential Skills

The tracking of individual student completion of all AVMA skills and tasks is a high priority item for maintaining AVMA accreditation of the Veterinary Technician Option. These skills have been tracked by the division since 2014 through the use of the AVMA Essential Skill Check off Book. It was updated each semester as classes were completed and LOA were analyzed. The book was then reprinted and provided to all incoming students fall semester. Beginning with the 2021 summer session the AVMA essential skills has been tracked using TheSaltHouse software system. Our goal is that the technician and assistant option students successfully complete at least 70% of the essential skills.

AVMA Essential Skill Check off (TheSaltHouse)

Cohort	Random Sample Size	Result
2014-2016	5	70%
2015-2017	5	80%
2016-2018	5	70%
2017-2019	10	60%
2018-2020	10	70%
2019 - 2021	8	78%
2020 – 2022	15	72%

Veterinary Technician Exit Exam Pass Rate – Final Assessment

Graduating year	Number taking	Number Passing	% passing
2017	29	24	83
2018	23	14	61
2019	21	21	100
2020	28	23	82
2021	18	15	83
2022	20	19	95
2023	22	19	86

Internship Employer Survey Results

A revised survey was initiated in 2023. Students complete an internship as part of every Veterinary Technology Option. Most complete the internship after completing all academic classes. The student must prepare goals and objectives for internship, track progress with essential skills and complete weekly progress notes.

Scale: 0 = unacceptable, 1 = below expectations, 2 = average, 3 = above average, 4 = outstanding.

Work Ethic-Professionalism	2023
Attendance	3.8
Displays a positive attitude	3.7
Listens attentively and follows directions.	3.7
Uses time effectively-keeps busy-sees things that need done	3.3
Honest	3.9
Completes work carefully, pays attention to details	3.6
Works independently self-motivated	3.1
Uses problem solving skills	3.1
Speaks clearly to clients and co-workers	3.2
Shares in group discussions & initiates questions	3.2
Courtesy, kindness, respectful, appropriate sense of humor	3.7
Adjusts to new situations	3.3
Professional appearance	3.8
Seeks input from others	2.7
Communication of ideas	2.6
Team player	3.4

Catches on quickly/desire to learn	3.0
Overall average in the work ethic area	3.4
Technical Skills	
Technical Knowledge and Skills	3.3
Hand-On Skills	3.2
Past Interns	3.1
Adaptability	3.4
Pharmacy and Pharmacology	2.9
History taking Examinations	3.3
Laboratory Procedures	3.2
Radiology and Ultrasound Imaging	3.1
Animal Handling and Restraint	3.0
Practice Management (computer skills)	3.1
Anatomy	3.4
Anesthesiology	2.9
Surgery	3.3
Nursing Skills	3.1
Overall average in technical skills	3.2
Number of students evaluated	23

Employer comments on skills students most prepared for on internship

- Triage, communicated well with owners. Adapted well in emergency department
- Nursing, Pharmacology, Anesthesia, Surgery
- Routine dentals, intubating patients
- Nursing, Large Animal
- Nursing, animal care, radiology, anesthesia, phlebotomy, restraint
- Anesthesia, Clin Path, Clinics, Nursing
- Taking blood, performing lab tests (fecals, UA, blood smears, etc.)
- Anesthesiology, Pharmacology
- Nursing
- Animal Care, Surgery, Parasitology, Radiology, Anesthesia, Clin Path, Large Animal
- Hematology
- Equine Handling and small animal venipuncture and IV catheter placement
- Animal Restraint. Nursing, Clinical Pathology
- Nursing, Radiology, All of J-Bows classes are super important, Anesthesia & Surgery
- Nursing, Surgery Prep, Anesthesia, Animal Care, Radiology, Facilities, All of Judy's classes
- Anesthesia, nursing, surgery
- Anesthesia, surgery
- surgical prep, surgical instruments, client compassion
- Surgery, clinical pathology, parasitology, hematology, nursing, radiology
- Processing cattle, restraining animals
- Nursing, anesthesia, hematology, parasitology, surgery, radiology
- Patient care,

- Organizing, cleanliness

Employer comments on skills students least prepared for on internship

- Complications with anesthesia patients, more complicated treatments (blood transfusions, etc.)
- Knowing different drugs and what they are used for
- Blood draws, pounds, grams, ounces conversions, horse handling skills
- Calculating medication and dosages for anesthesia, radiographic positioning, in house blood and urine machine
- Pharmacology
- End of life care, talking with clients. Radiography, lab, cytology, urinalysis, confidence
- Anesthesia and Pharmacology
- Lab animal surgery
- Cattle vaccines and protocols, explaining at home care to clients after their pet has been diagnosed with a life altering
- problem. (this can be fixed with experience)
- Pharmacology, venipuncture, cat restraint
- Everything on the equine side, we didn't get a lot of experience at school with them
- Pharmacology. More knowledge on medications & drugs would be useful.
- Client communication. Talking with clients more readily would be beneficial
- Needs to be more assertive and very timid at times.
- Pharmacology
- Anesthesia, pharmacology, radiology, ultrasound, large animal
- Restraint, client communication, medication knowledge, parasiticide knowledge
- Pharmacology, math, diseases, nutrition
- Knowing veterinary terminology and proper names of instruments. Having the confidence to communicate with clients
- Client communication, Drive to learn, restraint, intubation, willingness to learn and practice
- Interacting with clients
- Hematology and Parasitology
- Working with others and understanding her role

Previous Internship Employer Survey Results

Scale: 0 = unacceptable, 1 = below expectations, 2 = average, 3 = above average, 4 = outstanding.

Category – Work Ethic-Professionalism	2022	2021	2020	2019
Attendance	3.9	4.0	3.8	4
Displays a positive attitude	3.6	4.0	3.7	4
Listens attentively and follows directions.	3.6	3.8	3.5	4
Uses time effectively-keeps busy-sees things that need done	3.6	3.6	3.2	4
Honest	3.8	3.9	3.7	4
Completes work carefully, pays attention to details	3.5	3.8	3.6	4
Works independently self-motivated	3.4	3.3	3.1	3
Uses problem solving skills	3.3	3.6	3.3	4

Speaks clearly to clients and co-workers	3.2	3.3	3.2	3
Shares in group discussions & initiates questions	3.5	3.8	3.2	4
Communication of ideas, team player, seeks input		3.8	3.5	
Courtesy, kindness, respectful, appropriate sense of humor	3.8	3.9	3.7	4
Adjusts to new situations	3.5	4	3.4	3
Professional appearance	3.8	3.9	3.8	4
Overall average in the work ethic area	3.4	3.7	3.7	3.6
Overall all ability with Technical skills	3	3.3	3.1	3
Adaptability to clinic's way	3.7	3.5	3.1	4
Pharmacology	3.3	3.6	3.1	3
History taking and physical examinations	2.5	3.5	3.1	4
Lab skills: parasitology, hematology, clinical pathology	3	3.6	2.9	3
Radiology & Ultrasound	3.3	3.8	3.3	3
Animal handling and restraint	3.3	3.5	3.6	3
Practice Management	2.7	3.0	3.2	3
Anatomy	3.3	3.5	2.9	4
Anesthesiology	3.5	3.6	3.1	3
Surgery Prep	4	3.6	3.2	4
Nursing skills	3.3	3.6	3.0	4
Overall average in technical skills	3.2	3.6	3.3	3.3
Number of students evaluated	23	20	22	13

NATIONAL VETERINARY TECHNICIAN EXAM

Year	% Pass Rate
2017	93
2018	87
2019	91
2020	95
2021	50
2022 (Jan-July)	50
2023	38
2024	40

Part V – Program Outcome Course Matrixes

Associate of Applied Science – Agronomy Industry Management Option Course and Program Experience and Outcomes Matrix

Student Learning Outcomes

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information to reach sound logical conclusions in their chosen career pathway.
3. Students will be able to apply economic principles of accounting, marketing and budgeting to agronomy enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study. (Technical Competence)
 - a. Students will be able to apply economically sound and environmentally sustainable agricultural crop production practices in the Great Plains.

Course Number	Course Name	SLO1	SLO2	SLO3	SLO4
AGR 1091	Crop Practicum I		X	X	A
AGR 1591	Crop Practicum II		X	X	A
AGR 2091	Crop Practicum III		X	X	A
AGR 1103	Crop Science	X	X		X
AGR 1204	Principles of Soils		X		A
AGR 1213	Natural Resource Mgmt	X	X		X
AGR 1891	Crops Judging I				X
AGR 2892	Crops Judging II				X
AGR 2304	Soil Fertility		X		A
AGR 2353	Pest Management		X		A
AGR 2393	Irrigation Management		X		A
AGR 2403	Crop Management	X	X	X	A
AEQ 2103	Ag Chemical Application		X		A
AEQ 2323	Precision Farming		X		A
AGR 2903	Internship	A			A
AGR 2983	Capstone	X	A	X	
ENG 1503	Tech Communications I	A			
SPC 1103	Sales Communications	A			
ECN 1103	Intro to Ag Economics			A	
ACT 1103	Accounting I			A	
ABM 2854	Farm/Ranch Management			A	

“X” for courses or experiences in which students have the opportunity to learn the outcome.

“A” for courses or experiences in which student performance is used for program level assessment of the outcome.

**Associate of Applied Science – Diversified Agriculture Management Option:
Course and Program Experience and Outcomes Matrix**

Student Learning Outcomes

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information to reach sound logical conclusions in their chosen career pathway.
3. Students will be able to apply economic principles of accounting, marketing and budgeting to agronomy enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study. (Technical Competence)
 - a. Students will be able to apply economically sound and environmentally sustainable agricultural crop and livestock production practices in the Great Plains.

Course Number	Course Name	SLO1	SLO2	SLO3	SLO4
AGR 1103	Crop Science	X	X		X
AGR 1204	Principles of Soils		X		A
AGR 1213	Natural Resource Mgmt	X	X		X
AGR 2304	Soil Fertility		X		A
AGR 2353	Pest Management		X		A
AGR 2393	Irrigation Management		X		A
AGR 2403	Crop Management	X	A	X	A
AEQ 2103	Ag Chemical Application		X		A
AEQ 2323	Precision Farming		X		A
ASI 1304	Animal Management		X		A
ASI 1253	Nutrition		X		A
ASI 1213	Livestock & Carcass Eval.		X		A
ASI 1203	Feedlot Operations		X		A
ASI 2203	Feeds and Feeding		X		A
ASI 2353	Livestock Breeding		X		A
ASI 2773	Beef Production		X		A
AGR 2903	Internship	A			A
AGR 2983	Capstone	X	A	X	
ENG 1503	Tech Communications I	A			
SPC 1103	Sales Communications	A			
ECN 1103	Intro to Ag Economics			A	
ACT 1103	Accounting I			A	
ABM 2854	Farm/Ranch Management			A	

“X” for courses or experiences in which students have the opportunity to learn the outcome.
 “A” for courses or experiences in which student performance is used for program level assessment of the outcome.

**Associate of Applied Science – Ag Equipment Management Option
Course and Program Experience and Outcomes Matrix**

Student Learning Outcomes

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information to reach sound logical conclusions in their chosen career pathway.
3. Students will be able to apply economic principles of accounting, marketing and budgeting to agronomy enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study. (Technical Competence)
 - a. Students will be able to safely operate, troubleshoot and maintain agricultural equipment.

Course Number	Course Name	SLO1	SLO2	SLO3	SLO4
AEQ 1103	Small Engines		X		X
AEQ 1203	Welding		X		A
AEQ 1171	Industrial Safety		X		
AEQ 1303	Intermediate Welding		X		A
AEQ 1501	Intro to Electric Code		X		A
AEQ 1503	DC Circuit Analysis		X		A
AEQ 1513	AC Circuit Analysis		X		A
AEQ 2213	Advanced Welding		X		A
AEQ 2303	Equip. Prevent. Maint.		X		X
AEQ 2103	Ag Chemical Application		X		X
AEQ 2323	Precision Farming		X		X
AEQ 2404	Mechanized Irrigation		X		A
AGR 2903	Internship	A			A
AGR 2983	Capstone	X	A	X	
ENG 1503	Tech Communications I	A			
SPC 1103	Sales Communications	A			
ECN 1103	Intro to Ag Economics			A	
ACT 1103	Accounting I			A	
ABM 2854	Farm/Ranch Management			A	

“X” for courses or experiences in which students have the opportunity to learn the outcome.

“A” for courses or experiences in which student performance is used for program level assessment of the outcome.

**Associate of Applied Science –Equine Industry Management
Course and Program Experience and Outcomes Matrix**

Student Learning Outcomes

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information for each sound, logical conclusion.
3. Students will be able to apply economic principles of accounting, marketing, and budgeting to ag enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study
 - a. Students will be knowledgeable in the area of modern livestock husbandry and management practices.

Course Number	Course Name	SLO1	SLO2	SLO3	SLO4
ASI 1253	Nutrition	X	X	X	A
ASI 1161	Intro to Horsemanship	X	X		A
ASI 1304	Animal Management	X	X	X	A
ASI 1442	Equine Practicum I	X	X	X	A
ASI 1501	Equine Safety	X	X		A
ASI 2412	Equine Marketing Techniques	X	X	X	A
ASI 2433	Equine Industry Management I	X	X	X	A
ASI 2442	Equine Practicum II	X	X	X	A
ASI 2443	Equine Industry Management II	X	X	X	A
AGR 2903	Internship	A	X		A
AGR 2983	Capstone	X	A	X	
ENG 1503	Tech Communications I	A			
SPC 1103	Sales Communications	A			
ECN 1103	Intro to Ag Economics			A	
ACT 1103	Accounting I			A	
ABM 2854	Farm/Ranch Management			A	

“X” for courses or experiences in which students have the opportunity to learn the outcome.
 “A” for courses or experiences in which student performance is used for program level assessment of the outcome.

**Associate of Applied Science- Livestock Industry Management
Course and Program Experience and Outcomes Matrix**

Student Learning Outcomes

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information for each sound, logical conclusion.
3. Students will be able to apply economic principles of accounting, marketing, and budgeting to ag enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study.
 - a. Students will be knowledgeable in the area of modern livestock husbandry and management practices.

Course Number	Course Name	SLO1	SLO2	SLO3	SLO4
ASI 1203	Feedlot Systems	X	X	X	A
ASI 1213	Livestock and Carcass Evaluation	X	X	X	A
ASI 1253	Nutrition	X	X	X	A
ASI 1304	Animal Management	X	X	X	A
ASI 2383	Large Animal Diseases	X	X	X	A
ASI 2773	Beef Production Systems	X	X	X	A
MKT 2203	Ag Marketing		X	X	
AGR 2903	Internship	A	X		A
AGR 2983	Capstone	X	A	X	
ENG 1503	Tech Communications I	A			
SPC 1103	Sales Communications	A			
ECN 1103	Intro to Ag Economics			A	
ACT 1103	Accounting I			A	
ABM 2854	Farm/Ranch Management			A	

“X” for courses or experiences in which students have the opportunity to learn the outcome.

“A” for courses or experiences in which student performance is used for program level assessment of the outcome.

**Associate of Applied Science- Feedlot Industry Management
Course and Program Experience and Outcomes Matrix**

Student Learning Outcomes

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information for each sound, logical conclusion.
3. Students will be able to apply economic principles of accounting, marketing, and budgeting to ag enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study.
 - a. Students will be knowledgeable in the area of modern livestock husbandry and management practices.

Course Number	Course Name	SLO1	SLO2	SLO3	SLO4
ASI 1202	Feedlot Practicum I		X		X
ASI 1302	Feedlot Practicum II		X		X
ASI 1203	Feedlot Systems	X	X	X	A
ASI 1213	Livestock and Carcass Evaluation	X	X	X	A
ASI 1253	Nutrition	X	X	X	A
ASI 1304	Animal Management	X	X	X	A
ASI 2383	Large Animal Diseases	X	X	X	A
ASI 2203	Feeds and Feeding	X	X	X	A
ASI 2313	Ration Formulation	X	X	X	A
MKT 2203	Ag Marketing		X	X	
AGR 2903	Internship	A	X		A
AGR 2983	Capstone	X	A	X	
ENG 1503	Tech Communications I	A			
SPC 1103	Sales Communications	A			
ECN 1103	Intro to Ag Economics			A	
ACT 1103	Accounting I			A	
ABM 2854	Farm/Ranch Management			A	

“X” for courses or experiences in which students have the opportunity to learn the outcome.

“A” for courses or experiences in which student performance is used for program level assessment of the outcome.

**Associate of Science (Transfer) – Agronomy Option
Course and Program Experience and Outcomes Matrix**

Student Learning Outcomes

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information to reach sound logical conclusions in their chosen career pathway.
3. Students will be able to apply economic principles of accounting, marketing and budgeting to agronomy enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study. (Technical Competence)
5. Students will demonstrate the knowledge required to effectively transition to a bachelor’s degree in their chosen field of study.¹

Course Number	Course Name	SLO1	SLO2	SLO3	SLO4
AGR 1091	Crop Practicum I		X	X	X
AGR 1591	Crop Practicum II		X	X	X
AGR 2091	Crop Practicum III		X	X	X
AGR 1103	Crop Science	X	X		X
AGR 1204	Principles of Soils		X		A
AGR 1213	Natural Resource Mgmt	X	X		X
AGR 1891	Crops Judging I				X
AGR 2892	Crops Judging II				X
AGR 2304	Soil Fertility		X		A
AGR 2353	Pest Management		X		X
AGR 2393	Irrigation Management		X		X
AGR 2403	Crop Management	X	X	X	A
AGR 2903	Internship	X			X
AEQ 2323	Precision Farming		X		X
ECN 1203	Microeconomics			A	
ABM 2854	Farm/Ranch Management			A	
MKT 2203	Ag Marketing			A	
General Education Assessment		A			

“X” for courses or experiences in which students have the opportunity to learn the outcome.

“A” for courses or experiences in which student performance is used for program level assessment of the outcome.

¹SLO5 measured by student degree success at the bachelor’s institution.

**Associate of Science (Transfer) – Mechanized Systems Management
Course and Program Experience and Outcomes Matrix**

Student Learning Outcomes

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information to reach sound logical conclusions in their chosen career pathway.
3. Students will be able to apply economic principles of accounting, marketing and budgeting to agronomy enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study. (Technical Competence)
5. Students will demonstrate the knowledge required to effectively transition to a bachelor’s degree in their chosen field of study.¹

Course Number	Course Name	SLO1	SLO2	SLO3	SLO4
AEQ 1503	DC Circuit Analysis		X		X
AEQ 1513	AC Circuit Analysis		X		X
AGR 1204	Principles of Soils		X		A
AGR 1213	Natural Resource Mgmt	X	X		X
AGR 2304	Soil Fertility		X		A
AGR 2403	Crop Management	X	X	X	A
ASI 1304	Animal Management	X	X		X
ECN 1203	Microeconomics			A	
ABM 2854	Farm/Ranch Management			A	
General Education Assessment		A			

“X” for courses or experiences in which students have the opportunity to learn the outcome.

“A” for courses or experiences in which student performance is used for program level assessment of the outcome.

¹SLO5 measured by student degree success at the bachelor’s institution.

**Associate of Science (Transfer) - Agricultural Education
Course and Program Experience and Outcomes Matrix**

Student Learning Outcomes

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information for each sound, logical conclusion.
3. Students will be able to apply economic principles of accounting, marketing, and budgeting to ag enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study.
5. Students will demonstrate the knowledge required to effectively transition to a bachelor's degree in their chosen field of study.¹

Course Number	Course Name	SLO1	SLO2	SLO3	SLO4
AED 1103	Introduction to Secondary Agriscience Education	X	A	X	X
AED 1233	Planning Leadership and Experiential Programs	X	A	X	X
AEQ 1103	Small Engines		X	X	A
AEQ 1203	Welding		X	X	A
AGR 1204	Principles of Soil		X		X
ASI 1213	Livestock and Carcass Evaluation	X	X	X	A
ASI 1304	Animal Management	X	X	X	A
ASI 2513	Meat Science	X	X	X	X
ECN 1203	Microeconomics	X	X	A	X
ECN 1303	Macroeconomics	X	X		
PHL 1103	Critical Thinking	X	X		
General Education Assessment		A			

"X" for courses or experiences in which students have the opportunity to learn the outcome.

"A" for courses or experiences in which student performance is used for program level assessment of the outcome.

¹SLO5 measured by student degree success at the bachelor's institution.

**Associate of Science (Transfer) - Animal Science
Course and Program Experience and Outcomes Matrix**

Student Learning Outcomes

1. Students will be able to effectively communicate in oral and written form.
2. Students will be able to gather, assimilate, and process information for each sound, logical conclusion.
3. Students will be able to apply economic principles of accounting, marketing, and budgeting to ag enterprises.
4. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study.
5. Students will demonstrate the knowledge required to effectively transition to a bachelor's degree in their chosen field of study.¹

Course Number	Course Name	SLO1	SLO2	SLO3	SLO4
ABM 2003	Critical Thinking	X	X	X	
ABM 2403	Ag Finance	X	X	X	
ABM 2854	Farm and Ranch Management		X	A	
ACT 1103	Accounting I		X	A	
ASI 1024	Fundamentals of Animal Biology	X	X		X
ASI 1213	Livestock and Carcass Evaluation	X	X	X	A
ASI 1253	Nutrition	X	X	X	A
ASI 1304	Animal Management	X	X	X	A
ASI 2203	Feeds and Feeding	X	X	X	A
ASI 2383	Large Animal Diseases	X	X	X	X
ASI 2513	Meat Science	X	X	X	A
ASI 2604	Anatomy and Physiology	X	X		X
ASI 2773	Advanced Reproductive Physiology	X	X		X
ECN 1203	Microeconomics			A	
ECN 1303	Macroeconomics			X	
MGT 2103	Management Concepts			X	
General Education Assessment		A			

“X” for courses or experiences in which students have the opportunity to learn the outcome.

“A” for courses or experiences in which student performance is used for program level assessment of the outcome.

¹SLO5 measured by student degree success at the bachelor's institution.

Agricultural Welding Certificate
Course and Program Experience and Outcomes Matrix

Student Learning Outcomes

1. Students will be able to perform welding and fabrication technical skills.
2. Students will be able to interact professionally with colleagues and clients.

Course Number	Course Name	SLO1	SLO2
AEQ 1203	Welding	A	
AEQ 1171	Industrial Safety	X	
AEQ 1303	Intermediate Welding	A	
AEQ 2213	Advanced Welding	A	
AEQ 2604 ^a	Welding Apprenticeship	A	A

^a NOTE: AGR 2903 Internship may be substituted for Apprenticeship

Irrigation Technician Certificate
Course and Program Experience and Outcomes Matrix

Student Learning Outcomes

1. Students will gain a foundational knowledge in electricity and mechanized irrigation systems in order to effectively and safely service, repair, troubleshoot, and install center-pivot systems.
2. Students will be able to interact professionally with colleagues and clients.

Course Number	Course Name	SLO1	SLO2
AEQ 1171	Industrial Safety	X	
AEQ 1501	Intro to Electric Code	A	
AEQ 1503	DC Circuit Analysis	A	
AEQ 1513	AC Circuit Analysis	A	
AEQ 2404	Mechanized Irrigation Systems	A	X
SPC 1103	Sales Communication		A

Ag Chemical Application Certificate
Course and Program Experience and Outcomes Matrix

Student Learning Outcomes

1. Students will be able to deliver, mix and apply agricultural chemicals safely and efficiently.
2. Students will be able to maintain and safely operate ag chemical application equipment.
3. Students will be able to interact professionally with colleagues and clients.

Course Number	Course Name	SLO1	SLO2	SLO3
AEQ 2103	Ag Chemical Application	A	A	
AEQ 2323	Precision Farming Technology		X	
AGR 1881 or AGR 2903	Applied Agricultural Experience Internship	X	X	A
AGR 2353	Pest Management	X		

“X” for courses or experiences in which students have the opportunity to learn the outcome.

“A” for courses or experiences in which student performance is used for program level assessment of the outcome.

**Equine Training/Management Certificate
Course and Program Experience and Outcomes Matrix**

Student Learning Outcomes

Students gain a foundational knowledge in the area of equine management and training practices, typical in the equine industry.

Course Number	Course Name	Outcome
ASI 1161	Intro to Horsemanship	A
ASI 1262	Basic Equitation	A
ASI 1501	Equine Safety	A
ASI 1442	Equine Practicum I	A
ASI 2442	Equine Practicum II	A
ASI 2462	Colt Starting	X
ASI 2412	Equine Marketing Techniques	A
ASI 2363	Intermediate Training	X
ASI 2463	Advanced Performance Training	X

**Beef Production Certificate
Course and Program Experience and Outcomes Matrix**

Student Learning Outcomes

Students gain a foundational knowledge in the area of beef cattle management and husbandry.

Course Number	Course Name	Outcome
ASI 1203	Feedlot Systems	X
ASI 1213	Livestock and Carcass Evaluation	A
ASI 1253	Nutrition	A
ASI 1304	Animal Management	A
ASI 2383	Large Animal Diseases	X
ASI 2773	Beef Production Systems	A
ASI 2203	Feeds and Feeding	X
ASI 2353	Livestock Breeding	X

“X” for courses or experiences in which students have the opportunity to learn the outcome.

“A” for courses or experiences in which student performance is used for program level assessment of the outcome.

**AS and AAS - Agribusiness Management Systems
Course and Program Experience and Outcomes Matrix**

- SLO 1. Demonstrate computer skills
- SLO 2. Apply economic information to real world situations
- SLO 3. Think critically and demonstrate problem-solving skills
- SLO 4. Read, comprehend, and analyze basic financial statements and demonstrate basic accounting skills
- SLO 5. Effectively communicate in both an oral and written format
- SLO 6. Demonstrate skills enabling them to work effectively as individuals and in groups

	SLO1	SLO2	SLO3	SLO4	SLO5	SLO6
ABM 2004: Internship	X	X	X	X	X	X
ABM 2103: Personal Finance	X			X	X	
ABM 2403: Ag Finance	X	X	X	A	X	X
ABM 2603: Ag Law		X	X		X	X
ABM 2854: Farm & Ranch Management	X	X	A	A	X	X
ABM 2903: Entrepreneurship	A	A	A	X	X	A
ACT 1103: Accounting I	X		X	A	X	X
ECN 1103: Introduction to Ag Economics	A	A	X		X	
ECN 1203: Microeconomics	A	A	X		X	X
ECN 1303: Macroeconomics	X	A	X		X	X
ECN 1803: Statistics	X	X	X		X	X
MGT 2103: Management Concepts	X		X	X	X	X
MGT 2503: Human Resource Management	X		X		X	X
MKT 2103: Retail Marketing	X		X		X	
MKT 2203: Ag Marketing	X	X	A	X	X	X
ENG 1503 Tech Communications I					A	
SPC 1103: Sales Communications					A	

“X” for courses or experiences in which students have the opportunity to learn the outcome.

“A” for courses or experiences in which student performance is used for program level assessment of the outcome.

**Associate of Applied Science – Veterinary Technology Systems
Course and Program Experience and Outcomes Matrix**

Upon successful completion of the Veterinary Assistant Option, students will be able to demonstrate proficiency in motor skills, critical thinking, entrepreneurship, and clinical application skills at the veterinary assistant entry level in the following areas

- A. Office and Hospital Procedures
- B. Pharmacy and Pharmacology
- C. Nursing Skills
- D. Anesthesia
- E. Radiology
- F. Surgical Prep and Nursing
- G. Parasitology, Hematology and Clinical Pathology
- H. Animal Husbandry, Handling, Behavior and Restraint
- I. Anatomy and Physiology

Course Number	Course Name	A	B	C	D	E	F	G	H	I
VTS 1403	Anatomy & Physiology		X			X			X	A
VTS 2933	Anesthesiology	X	A	A	A	A	A	A	A	
VTS 1513	Animal Care	X		A	X		A	A	A	X
VTE 2423	Canine & Feline Nutrition or Livestock Nutrition	X	X				A		A	
VTS 2241	Career Strategies	X								
VTS 1604	Intro to Laboratory Science	X	X	X	X		A	A		X
VTS 2652	Parasitology	X	X	X	X		A	A	X	X
VTS 2662	Hematology	X		X	X		A	A	X	X
VTS 2682	Clinical Pathology	X		X	X		X	X		
VTS 2331	Clinical Practices	A	A	A	X	X	X	A	A	X
VTS 2733	Diseases of Vet Medicine	X	X					A		A
VTS 1542	Facility Management I	A		X						
VTS 2563	Fur and Feather			X	X			X	X	X
VTS 1511										
VTS 1521										
VTS 2533	Large Animal Techniques I, II, III			X	X		X		A	X
VTS 1313	Math for Vet Techs		X	X	X		A	X	X	
VTS 1301	Medical Terminology	X	X	X	X	X	X	X	X	X
VTS 2583, 2593	Nursing I and II	X	X	A	X	X	A	X	A	X
VTS 1713	Pharmacology & Anesthesia	X	A		A		A			X
VTS 1822, 1923	Radiology I & II	X				A	A		A	X
VTS 2953	Surgery Prep	X	A	A	A	A	A	X	A	A

“X” for courses or experiences in which students have the opportunity to learn the outcome.

“A” for courses or experiences in which student performance is used for program level assessment of the outcome.