

# AGRICULTURAL SCIENCE, B.TECH.

## Major Code: 2732

The Agricultural Science B.Tech. program is designed to expose students to a wide breadth of courses within agriculture, and consists of four tracks: Agronomy, Agricultural Outreach and Education, Dairy Management, and Livestock Management. The flexibility in this program allows students to tailor their degree program to best fit their individual needs, with all graduates completing a set of core courses common across the four tracks.

Graduates of the Agricultural Science B.Tech. program will be trained to succeed across a wide array of agricultural specialties, from employment in the agricultural service sector to on-farm management of dairy and other livestock species, or in the public sector as agricultural educators.

Students who choose the Agricultural Outreach and Education track will be well-poised upon the completion of their coursework at SUNY Morrisville to enter graduate school pursuing an Education Master's degree. Students interested in Teacher Certification will have the option to complete their Content Core credits at SUNY Morrisville, and then complete their Education credits at SUNY Oswego. They can also seek employment with a bachelor's degree at private k-12 institutions, not-for-profit organizations, or as a cooperative extension educator.

Regardless of the track, students within the Agricultural Science B.Tech. program will receive an education that is rooted in applied learning. The state-of-the-art facilities at the SUNY Morrisville campus provide the opportunity for students to apply the theory learned in lecture in a real-world setting.

- The Dairy Complex operates in a "for profit" manner, which is unique to many other programs in that students are able to actually illicit changes and see the impact it has on farm operations and profitability.
- The soils laboratory allows students to learn the techniques involved in agronomic and environmental soil testing, with the hundreds of acres of farmland serving as a real-world laboratory for our pastures and field crops courses.
- The expanding livestock options housed at the Dairy Complex provide students with the opportunity to learn how to manage and work with many livestock species, as much of the care provided for these animals is carried out by students in our agricultural programs.
- The vast agricultural opportunities available at SUNY Morrisville make it a premier option for individuals interested in pursuing an Agricultural Outreach and Education degree, providing diverse agricultural course offerings for them to choose from, preparing them to be the future agricultural educators in New York.

Students will also benefit from the new state-of-the-art Renewable Energy facility on campus, the newly renovated Dairy Processing and Specialty Crops facility, Horticultural greenhouses and an Aquaculture center, where innovative food production practices can be explored.

The Agricultural Science B.Tech. program requires completion of a minimum of 120 credit hours to be eligible for graduation.

The objective of the Agricultural Science B.Tech. program is to use hands-on experiential learning practices to prepare graduates to be leaders in their chosen agricultural field. The degree consists of four tracks: Agronomy, Agricultural Outreach and Education, Dairy

Management, and Livestock Management. Each of these options are designed to provide students with a real-world experience, utilizing the wide array of agricultural facilities on campus.

Upon completion of the Agricultural Science B.Tech. program, a successful graduate will:

- Utilize the developed expertise in concepts, theories, and emerging methodologies to succeed in tackling real-world issues specific to agriculture in the chosen degree track.
- Recognize problems specific to agriculture in the chosen degree track and formulate solutions to such problems.
- Demonstrate problem-solving and critical thinking skills to solve problems in the practice of agriculture.
- Apply practical knowledge and skills specific to agriculture in the chosen degree track.

A minimum of 120 credits is required for degree completion.

Code	Title	Credits
<b>Dairy Management Track</b>		
DANS 100	Dairy Nutrition	3
DANS 110	Breeding Dairy Cattle	3
DANS 120	Anatomy & Physiology-Dairy Cow	3
DANS 140	Dairy Cattle Judging	1
DANS 150	Dairy Farm Practicum I	2
DANS 151	Dairy Farm Practicum II	2
DANS 160	Introduction to Dairy Science	3
DANS 220	Dairy Herd Management	3
DANS 225	Dairy Production & Management	3
DANS 240	Dairy Farm Data Management	1
DANS 305	Dairy Calf & Heifer Management	3
DANS 340	Advanced Dairy Reproduction	3
DANS 450	Advanced Dairy Herd Mgt	4
AGBS 100	Agricultural Economics	3
or AGBS 225	Environmental Economics	
AGBS 200	Marketing Agricultural Products	3
AGBS 240	Farm Management and Finance	4
AGBS 305	Ag Financial Decision Making	3
AGNR 200	Job Prep Skills & Resources	1
AGRO 110	Soil Science	3
AGRO 210	Field Crops	3
AGRO 310	Pasture Mgt and Forages Prod	3
Select 2 credits from the following:		2
AGSC 132	Introduction to Precision Farming	
OFFT 100	Introduction to MS Word	
OFFT 106	Personal Computer Keyboarding	
or OFFT 109	Introduction to MS PowerPoint	
or OFFT 110	Introduction to MS Excel	
AGSC 137	Agricultural Statistics	3
AGSC 350	Animal Genetics	3
AGSC 460	Agricultural Science Capstone	3
AGSC 480	Internship Agricultural Scienc	12-15
ENRM 450	Environmental & Natural Resource Management Internship Orientation	1
COMP 310	Advance Tech Communication	3

Accounting as Advised	3	SUNY General Education World Language as Advised	3
SUNY General Education Diversity, Equity, Inclusion and Social Justice as Advised	3	SUNY General Education Communication Written and Oral as Advised	3-6
SUNY General Education World Languages as Advised	3	SUNY General Education Diversity, Equity, Inclusion and Social Justice as Advised	3
SUNY General Education Communication Written and Oral as Advised	3-6	Electives in DANS, AGSC, ANSC, AGBS or AGRO as Advised	6
SUNY General Education Courses in the Arts, Humanities, Social Science, US History and Civic Engagement, or World History and Global Awareness as Advised	6	General Electives as Advised	6
Electives in DANS, AGSC, ANSC, AGNR as Advised	6	SUNY General Education Courses in the Arts, Humanities, Social Science, US History and Civic Engagement, or World History and Global Awareness as Advised	6
General Electives as Advised	6	300-400 Level Electives in DANS, AGRO, AGSC, AGBS, BSAD, ANSC, AGNR or SPPR as Advised	14-17
300-400 Level Electives in DANS, AGRO, AGSC, AGBS, BSAD, ANSC, AGNR, SPPR as Advised	4-7		
<b>Total Credits</b>	<b>118-127</b>	<b>Total Credits</b>	<b>117-126</b>
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>Credits</b>	<b>Credits</b>	<b>Credits</b>	<b>Credits</b>
<b>Livestock Track</b>		<b>Agronomy Track</b>	
ANSC 101	Intro to Animal Science	AGNR 200	Job Prep Skills & Resources
ANSC 110	Livestock Production Mgmt/Tech	AGRO 110	Soil Science
ANSC 150	Live Animal Evaluation	AGRO 210	Field Crops
DANS 110	Breeding Dairy Cattle	AGRO 215	Soil Fertility & Fertilizers
DANS 160	Introduction to Dairy Science	AGRO 305	Adv Soil & Water Conservation
or ANSC 200	Sheep Industry/Production Syst	AGRO 310	Pasture Mgt and Forages Prod
DANS 100	Dairy Nutrition	AGRO 320	Urban Ag and Food Prod
or ESCI 210	Equine Nutrition	AGSC 115	Agricultural Science & Context
DANS 120	Anatomy & Physiology-Dairy Cow	AGSC 132	Introduction to Precision Farming
or ESCI 110	Equine Anatomy & Physiology	AGSC 137	Agricultural Statistics
AGBS 100	Agricultural Economics	or MATH 123	Elementary Statistics
or AGBS 225	Environmental Economics	AGSC 250	Application in Ag Science
AGBS 200	Marketing Agricultural Products	AGSC 320	Contemporary Issues in Agricul
AGBS 240	Farm Management and Finance	AGSC 460	Agricultural Science Capstone
AGBS 305	Ag Financial Decision Making	AGSC 480	Internship Agricultural Scienc (If 12 credits are selected, a 3-credit upper-level elective in DANS, AGRO, AGSC, AGBS, BSAD, ANSC, AGNR or SPPR must be taken)
AGRO 110	Soil Science	ANSC 101	Intro to Animal Science
AGRO 210	Field Crops	AGBS 100	Agricultural Economics
AGRO 310	Pasture Mgt and Forages Prod	or AGBS 225	Environmental Economics
AGSC 120	Domestic Animal Behavior	BIOL 102	Botany-Form Function Seed Plt
AGSC 137	Agricultural Statistics	CHEM 101	Basic Chemistry
Select 2 credits from the following:	2	or CHEM 110	Contemporary Chemistry
AGSC 132	Introduction to Precision Farming	or CHEM 121	General College Chemistry I
OFFT 100	Introduction to MS Word	COMP 310	Advance Tech Communication
OFFT 106	Personal Computer Keyboarding	ENRM 450	Environmental & Natural Resource Management Internship Orientation
or OFFT 109	Introduction to MS PowerPoint	ENSC 106	Pesticide Use and Handling
or OFFT 110	Introduction to MS Excel	ENSC 107	Integrated Pest Management
AGSC 320	Contemporary Issues in Agricul	HORT 150	Fruit & Vegetable Production
AGSC 460	Agricultural Science Capstone	SUNY General Education Communication Written and Oral as Advised	3-6
or AGBS 405	Farm & Rural Mngt Capstone	SUNY General Education Diversity, Equity, Inclusion and Social Justice as Advised	3
AGSC 480	Internship Agricultural Scienc (If 12 credits are selected, a 3-credit upper-level elective in DANS, AGRO, AGSC, AGBS, BSAD, ANSC, AGNR or SPPR must be taken)	SUNY General Education World Language as Advised	3
AGNR 200	Job Prep Skills & Resources	Elective Credits in AGBS, AGEN, AGNR, AGSC, AGRO, ANSC, CANA, DANS, HORT, ENRM, ENSC, ENVT, NATR, RENG or SPPR	12
ENRM 450	Environmental & Natural Resource Management Internship Orientation	General Electives	7
COMP 310	Advance Tech Communication		
Accounting as Advised	3		

SUNY General Education Arts, Humanities, Social Sciences, US History & Civic Engagement or World History & Global Awareness 6  
 300-400 Level Electives in AGEN, AGNR, AGSC, AGRO, ANSC, CANA, 11-14 DANS, HORT, ENRM, ENSC, ENVT, NATR, RENG or SPPR

**Total Credits 114-123**

Code	Title	Credits
<b>Agricultural Outreach and Education Track</b>		
AGRO 110	Soil Science	3
AGRO 210	Field Crops	3
AGRO 305	Adv Soil & Water Conservation	3
AGRO 310	Pasture Mgt and Forages Prod	3
AGRO 320	Urban Ag and Food Prod	3
AGSC 115	Agricultural Science & Context	1
AGSC 132	Introduction to Precision Farming	2
AGSC 137	Agricultural Statistics	3
or MATH 123	Elementary Statistics	
AGSC 320	Contemporary Issues in Agricul	3
AGSC 460	Agricultural Science Capstone	3
AGSC 480	Internship Agricultural Scienc (If 12 credits are selected, a 3-credit upper-level elective in DANS, AGRO, AGSC, AGBS, BSAD, ANSC, AGNR or SPPR must be taken)	12-15
ANSC 101	Intro to Animal Science	3
AGBS 100	Agricultural Economics	3
or AGBS 225	Environmental Economics	
AGBS 240	Farm Management and Finance	4
BIOL 102	Botany-Form Function Seed Plt	3
CHEM 101	Basic Chemistry	4
or CHEM 110	Contemporary Chemistry	
or CHEM 121	General College Chemistry I	
COMP 310	Advance Tech Communication	3
ENSC 106	Pesticide Use and Handling	2
ENSC 107	Integrated Pest Management	1
AGNR 200	Job Prep Skills & Resources	1
EDU 101	Introduction to Teaching	3
EDU 201	Foundations of Education	3
EDU 202	Guided Fieldwork in Education	1
ENRM 450	Environmental & Natural Resource Management Internship Orientation	1
SUNY General Education World Language as Advised 3		
SUNY General Education Communication Written and Oral as Advised 3-6		
SUNY General Education Diversity, Equity, Inclusion and Social Justice as Advised 3		
Electives as advised in AGEN, AGNR, AGSC, AGRO, ANSC, AGBS, CANA, DANS, HORT, ENRM, ENSC, ENVT, NATR, RENG or SPPR 14		
General Electives 3		
SUNY General Education Art, Humanities, Social Sciences, US History & Civic Engagement, or World History and Global Awareness as Advised 6		
300-400 Level Electives in AGBS, AGEN, AGNR, AGSC, AGRO, ANSC, 11-14 BSAD, CANA, DANS, HORT, ENRM, ENSC, ENVT, NATR, RENG or SPPR as Advised		

**Total Credits 114-123**

## Suggested Course Sequence Dairy Management Track

Course	Title	Credits
<b>Year 1</b>		
<b>Fall</b>		
DANS 100	Dairy Nutrition	3
DANS 150	Dairy Farm Practicum I	2
DANS 160	Introduction to Dairy Science	3
AGBS 100	Agricultural Economics	3
AGNR 200	Job Prep Skills & Resources	1
AGRO 110	Soil Science	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
DANS 110	Breeding Dairy Cattle	3
DANS 120	Anatomy & Physiology-Dairy Cow	3
DANS 140	Dairy Cattle Judging	1
DANS 151	Dairy Farm Practicum II	2
DANS 240	Dairy Farm Data Management	1
AGBS 200	Marketing Agricultural Prodcnts	3
SUNY General Education Communication Written and Oral as Advised 3		
<b>Credits</b>		<b>16</b>
<b>Year 2</b>		
<b>Fall</b>		
DANS 210	Dairy Health	3
DANS 220	Dairy Herd Management	3
AGRO 210	Field Crops	3
AGBS 240	Farm Management and Finance	4
SUNY General Education as Advised - Humanities, Art, Social Sciences, World Language, US History & Civic Engagement, or World History and Global Awareness 3		
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
DANS 225	Dairy Production & Management	3
AGSC 137	Agricultural Statistics	3
ACCT 101	Principles of Accounting I	3
SUNY General Education as Advised - Humanities, Art, Social Sciences, World Language, US History & Civic Engagement, or World History and Global Awareness 3		
SUNY General Education Diversity, Equity, Inclusion and Social Justice as Advised 3		
<b>Credits</b>		<b>15</b>
<b>Year 3</b>		
<b>Fall</b>		
DANS 340	Advanced Dairy Reproduction	3
AGBS 305	Ag Financial Decision Making	3
AGRO 310	Pasture Mgt and Forages Prod	3
AGSC 320	Contemporary Issues in Agricul	3
AGBS 250	Decision Making for Ag Manager	3
AGSC 132	Introduction to Precision Farming	2
<b>Credits</b>		<b>17</b>
<b>Spring</b>		
DANS 305	Dairy Calf & Heifer Management	3
COMP 310	Advance Tech Communication	3
SPAN 101	Beginning College Spanish 1	3
ENRM 450	Environmental & Natural Resource Management Internship Orientation	1
AUTO 102	Metals	3
<b>Credits</b>		<b>13</b>
<b>Year 4</b>		
<b>Fall</b>		
DANS 450	Advanced Dairy Herd Mgt	4
AGSC 350	Animal Genetics	3
AGSC 460	Agricultural Science Capstone	3
BSAD 300	Management Communications	3

ANSC 101	Intro to Animal Science	3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
AGSC 480	Internship Agricultural Scienc	12-15
<b>Credits</b>		<b>12-15</b>
<b>Total Credits</b>		<b>120-123</b>

## Livestock Track

Course	Title	Credits
<b>Year 1</b>		
<b>Fall</b>		
ANSC 101	Intro to Animal Science	3
DANS 150	Dairy Farm Practicum I	2
DANS 100	Dairy Nutrition	3
AGBS 100	Agricultural Economics	3
AGNR 200	Job Prep Skills & Resources	1
ACCT 101	Principles of Accounting I	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ANSC 150	Live Animal Evaluation	2
AGRO 110	Soil Science	3
DANS 110	Breeding Dairy Cattle	3
AGBS 200	Marketing Agricultural Prodcnts	3
AGSC 120	Domestic Animal Behavior	3
SUNY General Education Communication Written and Oral as Advised		3
<b>Credits</b>		<b>17</b>
<b>Year 2</b>		
<b>Fall</b>		
ANSC 110	Livestock Production Mgmt/Tech	3
AGRO 210	Field Crops	3
AGBS 240	Farm Management and Finance	4
AGSC 132	Introduction to Precision Farming	2
SUNY General Education Diversity, Equity, Inclusion and Social Justice as Advised		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ANSC 200	Sheep Industry/Prodcution Syst	3
DANS 120	Anatomy & Physiology-Dairy Cow	3
DANS 115	Dairy Cattle Artificial Insem	1
AGRO 215	Soil Fertility & Fertilizers	3
AGSC 137	Agricultural Statistics	3
SUNY General Education Art, Humanities, Social Sciences, World Language, US History & Civic Engagement or World History & Global Awareness as Advised		3
<b>Credits</b>		<b>16</b>
<b>Year 3</b>		
<b>Fall</b>		
DANS 210	Dairy Health	3
AGBS 305	Ag Financial Decision Making	3
AGRO 310	Pasture Mgt and Forages Prod	3
DANS 340	Advanced Dairy Reproduction	3
AGBS 250	Decision Making for Ag Manager	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
DANS 305	Dairy Calf & Heifer Management	3
ENRM 450	Environmental & Natural Resource Management Internship Orientation	1
COMP 310	Advance Tech Communication	3
AGSC 320	Contemporary Issues in Agricul	3
AGBS 350	Ag Business Development	3
AUTO 102	Metals	3
<b>Credits</b>		<b>16</b>

<b>Year 4</b>		
<b>Fall</b>		
AGSC 350	Animal Genetics	3
AGSC 460	Agricultural Science Capstone	3
BSAD 300	Management Communications	3
SPAN 101	Beginning College Spanish 1	3
AGRO 320	Urban Ag and Food Prod	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
AGSC 480	Internship Agricultural Scienc	12-15
<b>Credits</b>		<b>12-15</b>
<b>Total Credits</b>		<b>121-124</b>

## Agronomy Track

Course	Title	Credits
<b>Year 1</b>		
<b>Fall</b>		
AGRO 115	Principles of Compost Mgmt	3
AGSC 115	Agricultural Science & Context	1
ANSC 101	Intro to Animal Science	3
AGBS 100	Agricultural Economics	3
AGNR 200	Job Prep Skills & Resources	1
CHEM 121	General College Chemistry I	4
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
AGRO 110	Soil Science	3
BIOL 102	Botany-Form Function Seed Plt	3
ENSC 106	Pesticide Use and Handling	2
HORT 150	Fruit & Vegetable Production	3
SUNY General Education Communication Written and Oral as Advised		3
<b>Credits</b>		<b>14</b>
<b>Year 2</b>		
<b>Fall</b>		
AGRO 210	Field Crops	3
AGSC 132	Introduction to Precision Farming	2
AGEN 105	Principles of Farm Machinery	2
AGEN 115	Ag Engr Industry Overview	1
DANS 160	Introduction to Dairy Science	3
ENSC 107	Integrated Pest Management	1
SPAN 101	Beginning College Spanish 1	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
AGSC 137	Agricultural Statistics	3
AGRO 215	Soil Fertility & Fertilizers	3
AGSC 250	Application in Ag Science	3
HORT 241	Plant Protection	3
SUNY General Education Diversity, Equity, Inclusion and Social Justice as Advised		3
<b>Credits</b>		<b>15</b>
<b>Year 3</b>		
<b>Fall</b>		
AGRO 310	Pasture Mgt and Forages Prod	3
COMP 310	Advance Tech Communication	3
SUNY General Education Art, Humanities, Social Sciences, World Language, US History & Civic Engagement or World History & Global Awareness as Advised		3
CANA 350	Hemp Production & Processing	3
RENG 310	Biomass Energy Resources	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
AGRO 305	Adv Soil & Water Conservation	3
AGRO 320	Urban Ag and Food Prod	3
AGSC 320	Contemporary Issues in Agricul	3

AGNR 400	Instructional Assistance Exp	4
ENRM 345	Surface & Groundwater Mgt.	3
SUNY General Education Art, Humanities, Social Sciences, World Language, US History & Civic Engagement or World History & Global Awareness as Advised		3
<b>Credits</b>		<b>19</b>
<b>Year 4</b>		
<b>Fall</b>		
AGSC 460	Agricultural Science Capstone	3
ENRM 450	Environmental & Natural Resource Management Internship Orientation	1
General Electives as Advised		3
RENG 311	Biofuels	3
AGNR 399	Research and Mgmt in Agr	4
<b>Credits</b>		<b>14</b>
<b>Spring</b>		
AGSC 480	Internship Agricultural Scienc	12-15
<b>Credits</b>		<b>12-15</b>
<b>Total Credits</b>		<b>119-122</b>

## Outreach and Education Track

Course	Title	Credits
<b>Year 1</b>		
<b>Fall</b>		
AGRO 115	Principles of Compost Mgmt	3
AGSC 115	Agricultural Science & Context	1
ANSC 101	Intro to Animal Science	3
AGBS 100	Agricultural Economics	3
AGNR 200	Job Prep Skills & Resources	1
SUNY General Education Communication Written and Oral as Advised		3
EDU 101	Introduction to Teaching	3
<b>Credits</b>		<b>17</b>
<b>Spring</b>		
AGRO 110	Soil Science	3
BIOL 102	Botany-Form Function Seed Plt	3
HORT 150	Fruit & Vegetable Production	3
SUNY General Education Diversity, Equity, Inclusion and Social Justice as Advised		3
DANS 110	Breeding Dairy Cattle	3
<b>Credits</b>		<b>15</b>
<b>Year 2</b>		
<b>Fall</b>		
AGRO 210	Field Crops	3
AGSC 132	Introduction to Precision Farming	2
AGBS 240	Farm Management and Finance	4
PSYC 101	Introduction to Psychology	3
DANS 160	Introduction to Dairy Science	3
ENSC 107	Integrated Pest Management	1
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ENSC 106	Pesticide Use and Handling	2
SUNY General Education Art, Humanities, Social Sciences, World Language, US History & Civic Engagement or World History & Global Awareness as Advised		3
EDU 201	Foundations of Education	3
SUNY General Education World Languages as Advised		3
AGBS 250	Decision Making for Ag Manager	3
EDU 202	Guided Fieldwork in Education	1
<b>Credits</b>		<b>15</b>
<b>Year 3</b>		
<b>Fall</b>		
AGRO 310	Pasture Mgt and Forages Prod	3
COMP 310	Advance Tech Communication	3
RENG 310	Biomass Energy Resources	3
CHEM 110	Contemporary Chemistry	4

PSYC 242	Adolescent Development	3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
AGRO 305	Adv Soil & Water Conservation	3
AGRO 320	Urban Ag and Food Prod	3
AGSC 320	Contemporary Issues in Agricul	3
BSAD 300	Management Communications	3
AGSC 137	Agricultural Statistics	3
AGBS 225	Environmental Economics	3
<b>Credits</b>		<b>18</b>
<b>Year 4</b>		
<b>Fall</b>		
AGSC 460	Agricultural Science Capstone	3
ENRM 450	Environmental & Natural Resource Management Internship Orientation	1
CANA 350	Hemp Production & Processing	3
RENG 311	Biofuels	3
HORT 200	Greenhouse Management	3
<b>Credits</b>		<b>13</b>
<b>Spring</b>		
AGSC 480	Internship Agricultural Scienc	12-15
<b>Credits</b>		<b>12-15</b>
<b>Total Credits</b>		<b>122-125</b>