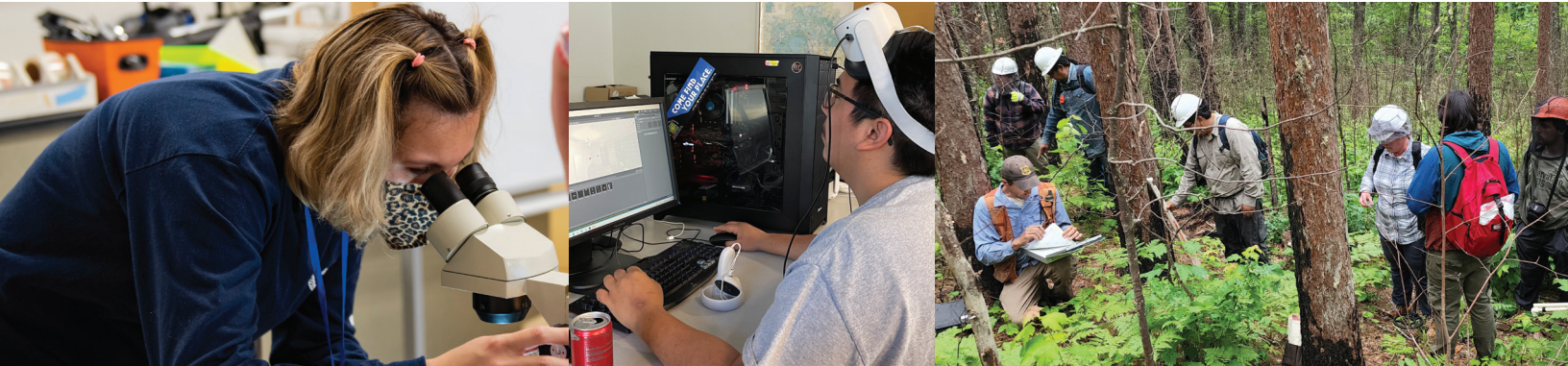# ANISHINAABE GIKENDAASOWIN
Indigenous Science.

INDIGENOUS SCIENCE WITH EMPHASIS
ASSOCIATE OF ARTS

This program is designed for students interested in Science, Technology, Engineering and Math (STEM), with specific study emphases in Forest Ecology, Information Technology and Human Health.

Graduates will be able to:

- Construct scientific inquiry by proposing research questions, formulating hypotheses and analyzing data.
- Relate Indigenous knowledge to current scientific issues.
- Apply quantitative skills to scientific problems.
- Demonstrate scientific literacy in STEM contexts.

Specified Study Emphases:

Students can choose an *area of emphasis* aligned with their interests or create their own:

FOREST ECOLOGY - *Gikenimindwaa mitigoog*
The **FE** emphasis offers knowledge and experience in forested ecosystems and local land-use issues. Learn the traditional and contemporary forest plants, fire history and management, and ecosystem functions while interacting with local professionals in the Leech Lake area.
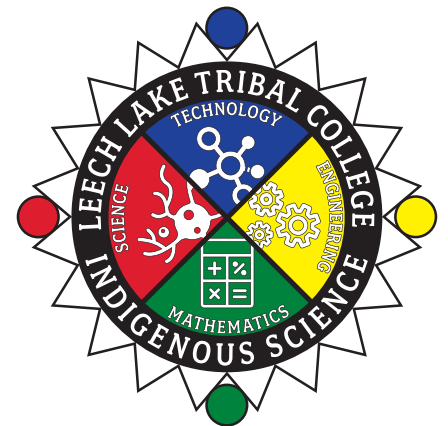
INFORMATION TECHNOLOGY - *Mazinaabikiwebinige*
The **IT** emphasis offers knowledge and experience in computer systems, programming, data management, computer forensics, and much more through classroom and co-curricular opportunities. IT graduates will be qualified for entry-level positions and will have a solid base to pursue a 4-yr degree in computer science or IT.

HUMAN HEALTH - *Ezhi-mino-ayaayang*
The **HH** emphasis explores health and society through Anishinaabeg perspectives. With a strong focus on psychology, math, chemistry, and more, students in HH will have the foundation to pursue careers in health care, social services, and more.

INDIGENOUS SCIENCE - *Anishinaabe Gikendaasowin*
The **IS** emphasis is a flexible option for students who can customize their electives based on their future aspirations. Future STEM teachers, environmental quality experts, GIS technicians, and many more career and academic paths are available to LLTC IS students.

Indigenous Science 2023-2025 Program of Study
FE - Forest Ecology / IT - Information Technology / HH - Human Health
*Courses with initials are required for that emphasis

LLTC Core Requirements: 20 credits			**Cr.**	**Pre-Req**	**Term**	**CK List**
	ANI 100	Introduction to Anishinaabe Studies	3		FA/SP	
	EDU 102	Miikana *(FYE)*	3		FA/SP	
	ENGL 101	English Composition I	3		FA/SP	
	ITECH 100	Computer Applications I	3		FA/SP	
	OJI 101	Speaking Ojibwe I	4		FA/SP	
	OJI 102	Speaking Ojibwe II	4	OJI 101	FA/SP	

Category 1: Communications: 3 credits			**Cr.**	**Pre-Req**	**Term**	**CK List**
	ENGL 201	English Composition II	3	ENGL 101	Interm.	
	SPCH 100	Speech and Communications	3	ENGL 101	FA/SP	

Category 2: Critical Thinking (Satisfied by MNTC requirements)						

Category 3: Natural Science: 7 credits (1 Lab Required)			**Cr.**	**Pre-Req**	**Term**	**CK List**
Science Options with a Lab						
FE	BIO 121	General Biology I	4		FA/SP	
	BIO 122	General Biology II	4		Spring	
FE	GEOL 110	Physical Geology and Earth Systems	4		FA/SP	
	FOR 110	Woodland Plants	4		Fall	
	ISCI 211	Introduction to Environmental Chemistry	4		Interm.	
Science Options without a Lab						
*	BIO 204	Environmental Science	3		FA/SP	
	ENER 150	Introduction to Renewable Energy	3		Fall	
*	ISCI 291	Indigenous Science	3	ENGL 101	Interm.	

Category 4: Mathematical/Logical Reasoning: 3 credits			**Cr.**	**Pre-Req**	**Term**	**CK List**
	MATH 155	Advanced College Algebra	3	MATH 150	FA/SP	
	MATH 210	Pre-Calculus I	3	MATH 155	Interm.	

Category 5: History and Social Sciences: 6 credits			**Cr.**	**Pre-Req**	**Term**	**CK List**
FE,IT	GEOG 200	Cultural Geography	3		Interm.	
	HIS 150	History of Leech Lake	3		FA/SP	
FE,IT	POLSC 225	Treaty Law and Tribal Sovereignty	3		Spring	
IT,HH	PSY 100	General Psychology	3		Fall	
	PSY 200	Developmental Psychology	3		Interm.	
HH	SOC 101	Introduction to Sociology	3		FA/SP	

Indigenous Science 2023-2025 Program of Study

Category 6: Humanities and Arts: 6 credits (4 credits satisfied by LLTC Core OJI 102)			Cr.	Pre-Req	Term	CK List
	ART/MUS	Any art or music class	3		FA/SP	
FE	ENGL 200	Literature and the Environment	3	ENGL 101	Fall	
	ENGL 250	Contemporary Indigenous American Literature	3	ENGL 101	Spring	
HH	PHIL 200	Indigenous American Philosophy	3		Fall	

Category 7: Human Diversity (Satisfied by LLTC Core ANI 100)

Category 8: Global Perspective (Satisfied by LLTC Core OJI 101)

Category 9: Ethical and Civic Responsibility (Satisfied by LLTC Core ITECH 100)

Category 10: People and the Environment (Satisfied by ENGL 200/GEOL 110/ISCI 291)			Term	CK List
	BIO 200	Ethnobiology	3	Fall	
	BIO 204	Environmental Science	3	FA/SP	

Forest Ecology Emphasis Electives

15 credits - 6 credits must be 200 or higher (*required courses)			Cr.	Pre-Req	Term	CK List
	BIO 130	Wildlife Biology	4	BIO 121	Fall	
*	BIO 212	Ecology	3	BIO 121/122	Spring	
*	FOR 101	Introduction to Forestry	3		Spring	
*	FOR 110	Woodland Plants	4		Fall	
	FOR 210	Freshwater Studies	4	BIO 212	Interm.	
	FOR 230	Dendrology	3	FOR 101	Spring	
	FOR 260	GIS Application	3	ITECH 100 or IP	Fall	
	ISCI 211	Introduction to Environmental Chemistry	4		Interm.	
	MATH 210	Pre-Calculus I	3	MATH 155	Interm.	
		Total=	63 Credits			

Please note that some of the pre-req's may be completed based on competency.

Information Technology Emphasis Electives

15 credits - 6 credits must be 200 or higher (*required courses)			Cr.	Pre-Req	Term	CK List
*	ITECH 150	Computer Applications II	3	ITECH 100	FA/SP	
*	ITECH 190	Introduction to Computer Science	3	ITECH 150	Fall	
	ITECH 210	Introduction to Computer Programming	3	MATH 150/ ITECH 150	Interm.	
	ITECH 240	Introduction to Game Development	3	ITECH 100 or IP	Interm.	
*	ITECH 270	Web Page Design	3	ITECH 150	Interm.	
	MATH 170	Statistics	3	MATH 150	Interm.	
	MATH 210	Pre-Calculus I	3	MATH 155	Interm.	
		Total=	63 Credits			

Please note that some of the pre-req's may be completed based on competency.

Human Health Emphasis Electives

15 credits - 6 credits must be 200 or higher (*required courses)			Cr.	Pre-Req	Term	CK List
	ANI 290	Knowledge Bowl Preparation	2		Spring	
	BIO 121	General Biology I & Lab	4		FA/SP	
	BIO 122	General Biology II & Lab	4		Interm.	
	BIO 200	Ethnobiology	3		Fall	
	BIO 202	Human Anatomy & Physiology	4	BIO 121	Interm.	
	BIO 291	Indigenous Science	3		Interm.	
	ECE 180	Child Growth and Development	3		Fall	
	ECE 222	Infant and Toddler Development	3		Spring	
	GEOG 200	Cultural Geography	3		Interm.	
	HIS 150	History of Leech Lake	3		FA/SP	
	ISCI 211	Introduction to Environmental Chemistry	4		Interm.	
	ITECH 150	Computer Applications II	3	ITECH 100	FA/SP	
	ITECH 270	Web Page Design	3	ITECH 150	Interm.	
	MATH 170	Statistics	3	MATH 150	Interm.	
	MATH 210	Pre-Calculus I	3	MATH 155	Interm.	
	MATH 215	Trigonometry	3	MATH 155	Interm.	
	MATH 250	Calculus I	3	MATH 210	Interm.	
	POLSC 225	Treaty Law and Tribal Sovereignty	3		Spring	
	PSCI 150	Indigenous Astronomy	3		Interm.	
	PSY 200	Developmental Psychology	3		Interm.	
*	PSY 220	Abnormal Psychology	3	PSY 100	Spring	
	PSY 210	Indigenous American Psychology	3		Spring	
*	SOC 210	Race and Ethnicity	3		Fall	
		Total=	63 Credits			

Please note that some of the pre-req's may be completed based on competency.

Indigenous Science Emphasis Electives

15 credits - 6 credits must be 200 or higher *(*required courses)*			Cr.	Pre-Req	Term	CK List
	BIO 121	General Biology I & Lab	4		FA/SP	
	BIO 122	General Biology II & Lab	4		Interm.	
	BIO 130	Wildlife Biology	4	BIO 121	Fall	
*	BIO 200	Ethnobiology	3		Fall	
	BIO 204	Environmental Science	3		FA/SP	
	BIO 212	Ecology	3	BIO 121/122	Spring	
	BIO 285	Remote Sensing	3		FA/SP	
*	ISCI 291	Indigenous Science	3	ENGL 101	Interm.	
	ENER 150	Introduction to Renewable Energy	3		Interm.	
	ISCI 220	Introduction to Atmospheric Science	3	MATH 150	Interm.	
	ISCI 240	Watershed Research Methods & the LL Area	4	GEOL 110 & ESS 220	Interm.	
	FOR 101	Introduction to Forestry	3		Spring	
	FOR 110	Woodland Plants	4		Fall	
	FOR 130	Introduction to Field and GIS Skills	2		Interm.	
	FOR 210	Freshwater Studies	4	BIO 212	Interm.	
	FOR 230	Dendrology	3	FOR 101	Spring	
	FOR 240	Survey & Measurement	2	FOR 130	Interm.	
	FOR 260	GIS Applications	3	ITECH 100	Fall	
	FOR 298	Research - Forest Ecology	2		Interm.	
	GEOL 110	Physical Geology & Earth Systems	4		FA/SP	
	GEOL 210	Soils, Sediments and the Leech Lake Area	3	GEOL 110	Interm.	
	ISCI 211	Introduction to Environmental Chemistry	4		Interm.	
	ITECH 150	Computer Applications II	3	ITECH 100	FA/SP	
	ITECH 190	Introduction to Computer Science	3	ITECH 150	Fall	
	ITECH 210	Introduction to Computer Programming	3	MATH 150/ ITECH 150	Interm.	
	ITECH 240	Introduction to Game Development	3	ITECH 100	Interm.	
	ITECH 270	Web Page Design	3	ITECH 150	Interm.	
	MATH 210	Pre-Calculus I	3	MATH 155	Interm.	
	MATH 215	Trigonometry	3	MATH 155	Interm.	
		Total=	63 Credits			

Please note that some of the pre-req's may be completed based on competency.