Capability Statement

Institution: Cankdeska Cikana Community College

Unique Identifier: MLFBN8MB6N45 **Cage Code:** 3BPL6 **NAICS:** 611210

Federal EIN No: 45-0350756

Accredited by Higher Learning Commission

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Overview

In the early 1960s, Chief Lewis Good House (tribal chairman) was adamant that any services for the people of the Spirit Lake Tribe (then called the Devils Lake Sioux Tribe), were to be based in the villages where the Dakota people lived and raised families, south of Devils Lake. Lake Region Junior College (now Lake Region State College) reached out to Chairman Good House to provide college courses on the reservation. The *History of the Plains Indians* was the first course listed in the LRJC catalog in 1965-66 and in June 1967, with the Chairman's support, LRJC received a major grant from the National Endowment for the Humanities to develop a college program for Spirit Lake. This collaboration led to the establishment of a tribal education committee in the 1970s to continue working with LRJC for grant funding for a higher education program for the Spirit Lake community.

In November 1970 a significant conference on Indian post-secondary education was held in Devils Lake, North Dakota by the American Association of Junior Colleges and funded by the Kellogg Foundation. Educators and tribal leaders from eleven reservations and nine Midwest junior colleges discussed the potential for establishing tribal colleges. This conference played a significant role in the future development of the American Indian Higher Education Consortium (AIHEC).

LRJC entered into a bilateral agreement with the Spirit Lake Tribe in 1974 to provide college classes and to assist in establishing a college on the reservation. Little Hoop College obtained US Department of Education, Title III Developing Institutions grant funding that was used for

staffing with the first classes offered in January 1975 and as LRJC courses. A feasibility study was done by the Bureau of Indian Affairs (BIA) in 1980 to determine eligibility of Little Hoop Community College for funding under PL 95-471, the Tribally Controlled Community College Assistance Act. Little Hoop Community College (LHCC) began receiving funds in September 1980.

In 1982, Little Hoop Community College was accepted as a candidate for accreditation status by North Central Association of Colleges and Schools (NCACS – now called the Higher Learning Commission or HLC) and thus the bilateral agreement with LRJC was terminated. In 1984 LHCC moved into its existing campus building and legally changed the name to Cankdeska Cikana (means Little Hoop) Community College (CCCC). CCCC was accredited by the NCACS in February 1990 at the associate level.

Cankdeska Cikana Community College was named in honor of Paul Yankton Sr. whose Dakota name was Cankdeska Cikana. Paul Yankton Sr. was a recipient of two Purple Hearts and died on November 29, 1944, while serving as a rifleman with the United States Army's 11th Infantry at Lorraine, France.

Cankdeska Cikana was a proud warrior who believed in self-responsibility and the need for educational opportunities for Indian people. In May 1995 the Board of Regents officially changed the name of the institution to Cankdeska Cikana Community College. Mr. Yankton's son, Paul Jr., has a lifetime appointment as Chairman of the Board of Regents.

Cankdeska Cikana translates into English as Little Hoop and is pronounced *"Chauñ-GDEH-sh'kah CHEE-kah-nah"*.

Mission Statement

CCCC provides opportunities that lead to student independence and self-sufficiency through academic achievement and continuation of the Spirit Lake Dakota language and culture.

Past Performance

Cankdeska Cikana has been involved in a number of NSF and DOE grants for purposes of engineering program collaboratives, advanced manufacturing collaboratives, as well as STEM outreach programs such as NATURE academy.

Facilities

Bio-Rad ddPCR with automated droplet generator: The Bio-Rad ddPCR is a digital PCR system that uses droplet generation technology to partition a sample into thousands of individual droplets. This allows for the detection of rare mutations and the quantification of gene expression with high sensitivity and accuracy. The automated droplet generator streamlines the workflow and reduces the risk of errors.

CFX96 Bio-Rad Thermocycler: The CFX96 Bio-Rad Thermocycler is a real-time PCR instrument that can be used for a variety of applications, including gene expression analysis, genotyping, and pathogen detection. It is a versatile and easy-to-use instrument that can be used in a variety of research settings.

Zeiss phase contrast microscope: The Zeiss phase contrast microscope is a powerful tool for visualizing cells and tissues. It uses phase contrast to enhance the contrast of unstained samples, making it possible to see details that would not be visible with a brightfield microscope. The Zeiss phase contrast microscope is an essential tool for any laboratory that studies cells and tissues.

Bio-Rad Trans-Blot Turbo Transfer System: The Bio-Rad Trans-Blot Turbo Transfer System is a high-speed Western blotting system that can be used to transfer proteins from gels to membranes in as little as 3 minutes. This makes it a valuable tool for researchers who need to quickly and efficiently transfer proteins for Western blotting analysis.

Inova -80-degree centigrade freezer: The Inova -80-degree centigrade freezer is a low-temperature freezer that is used to store biological samples at very low temperatures. This makes it ideal for storing samples that are sensitive to degradation, such as enzymes and proteins. The Inova -80-degree centigrade freezer is a reliable and energy-efficient option for long-term sample storage.

Thermo Fisher Laminar flow hood: The Thermo Fisher Laminar flow hood is a biosafety cabinet that provides a sterile environment for working with hazardous materials. It is equipped with a HEPA filter that removes 99.99% of airborne particles, making it safe to work with biological agents, chemicals, and other hazardous materials.

Eppendorf refrigerated centrifuge: The Eppendorf refrigerated centrifuge is a versatile instrument that can be used for a variety of applications, including cell separation, protein purification, and nucleic acid isolation. It is a reliable and easy-to-use instrument that is essential for many laboratory protocols.

HEPA filtered PCR chamber: The HEPA filtered PCR chamber is an enclosed chamber that is used to protect samples from contamination during PCR amplification. It is equipped with a HEPA filter that removes 99.99% of airborne particles, making it ideal for preventing contamination from airborne bacteria, fungi, and other contaminants.

Bio-Rad Conventional Thermocycler: This instrument plays a crucial role in molecular biology research by enabling the amplification of specific DNA sequences through the polymerase chain reaction (PCR). Featuring precise temperature control through heating and cooling elements, the thermocycler allows researchers to analyze gene expression, identify genetic variations, and perform various other critical analyses.

Bio-Rad Temperature Controlled Water Bath: The Bio-Rad temperature-controlled water provides uniform heat distribution and precise temperature control. This versatile instrument ensures optimal conditions for a wide range of biological and biochemical experiments.

Lab Armor Bead Bath 20L: Designed for large-volume applications, the Lab Armor bead bath 20L offers superior temperature control and mixing compared to traditional water baths. Utilizing beads instead of water, it provides a more uniform and stable temperature environment, ideal for enzyme reactions, protein purification, and sample preparation. The increased efficiency of heat transfer and mixing facilitated by the beads expedites and optimizes various experimental procedures. With its impressive 20L capacity, this bath proves invaluable for high-throughput workflows.

Promega GloMax Explorer: This multi-detection microplate reader empowers researchers with the ability to measure diverse luminescence and fluorescence signals. From quantifying reporter gene expression and cellular viability to detecting protein-protein interactions and nucleic acid concentration, the GloMax Explorer proves its versatility in numerous life sciences research applications.

NanoDrop Spectrophotometer: With its compact design and ease of use, the NanoDrop Spectrophotometer allows for rapid and accurate measurement of nucleic acid and protein concentration and purity. Utilizing minimal sample volumes, it delivers reliable results, facilitating high-throughput workflows. The NanoDrop assesses DNA and RNA purity through the A260/A280 ratio and measures protein concentration based on 280nm absorbance.

Bio-Rad ChemiDoc MP Imaging System: This versatile imaging system captures and analyzes chemiluminescent and fluorescent signals, catering to applications like Western blotting, DNA gel analysis, in situ hybridization, and immunofluorescence microscopy. Featuring high sensitivity, a wide dynamic range, and multiple imaging modes, the ChemiDoc MP captures both low-level and high-intensity signals without saturation. Additionally, its advanced image analysis software provides tools for quantitative analysis of gels and blots, further streamlining research workflows.

Formlabs 3B & 3BL SLA resin printer: Stereolithography (SLA) 3D printing is the most common resin 3D printing process that has become vastly popular for its ability to produce high-accuracy, isotropic, and watertight prototypes and end-use parts in a range of advanced materials with fine features and smooth surface finish.

Formlabs Wash L and Cure L: Used in post-processing for SLA products.

Formlabs fuse 1 and fuse 1+: Selective laser sintering (SLS) is the most common additive manufacturing technology for industrial applications, trusted by engineers and manufacturers across different industries for its ability to produce strong, functional parts by sintering polymer powder.

Markforged Mark II: The Mark Two is the professional carbon fiber composite 3D printer – built around the Continuous Fiber Reinforcement (CFR) process to reliably produce strong parts by fused deposition modeling (FDM). It's built around an aluminum unibody frame that delivers high accuracy and repeatability.

Markforged X7: An industrial-grade, large-format composite 3D printer renowned for its precision, strength, and reliability. It features a dual-nozzle system capable of continuous fiber reinforcement including carbon fiber, fiberglass, Kevlar, and HSHT fiberglass combined with Onyx or nylon base materials, enabling production of parts that are as strong as or stronger than machined aluminum. With a build volume of 330 × 270 × 200 mm, a layer resolution down to 50 µm, and in-process laser inspection for bed-leveling and dimensional accuracy, it delivers consistent, high-performance output. Managed via Markforged's cloud-based Eiger software and supporting Turbo Print mode for rapid production, the X7 serves as a turnkey solution for manufacturing tools, functional end-use parts, and prototypes with metal-like properties straight from the print bed.

Markforged Metal X: An accessible, end-to-end metal 3D printing system that uses Atomic Diffusion Additive Manufacturing (ADAM), blending bound metal-powder filament with traditional FFF printing and sintering to produce near fully-dense metal parts—reaching ≈99.7% density—without the safety hazards of loose powder or lasers. It offers a generous 300 × 220 × 180 mm build volume, layer resolution down to \~50 µm, and in-process laser-based dimensional inspection controlled via cloud-based Eiger software. Compatible with high-performance metals like stainless steel (17-4PH), tool steels (H13, A2, D2), Inconel 625, copper, and beta-phase aluminum and titanium alloys in testing, it enables production of functional, structural, and end-use parts with mechanical properties rivaling traditional manufacturing—all at a fraction of the cost of DMLS systems, and with minimal facility overhead.

Markforged Sinter 2: A high-capacity, industrial-grade sintering furnace designed for post-processing metal parts printed on the Metal X or FX10 systems. Featuring a spacious hot zone (\~18,000–19,600 cm^3), it can accommodate large or batch-produced components, heating them to up to 1,300 °C in a carbon-free retort under argon or argon/hydrogen atmospheres. The Sinter-2 offers a full-cycle sinter time of approximately 30 hours, with a rapid "express" mode of around 17 hours for smaller batches under 250 g. Additional features include automatic thermal cycling, mechanical door interlocks, active cooling, and precise temperature control, making it ideal for reliable, high-purity densification of green metal parts into near fully-dense, structurally sound components.

Markforged Wash-1: Often referred to as the acid-wash system, it is a fully integrated debinding station designed for use with the Metal X and FX10 metal 3D printers. After printing, the "green" part of bound metal powder is submerged in a heated solvent bath (using Opteon SF-79 or similar), which dissolves the primary polymer binder and transforms the part into a more fragile "brown" form ready for sintering. It features a stainless-steel basket, integrated controls, safety mechanisms (like low-fluid and vapor-pressure shutoff), and ventilation-ready design to conserve solvent and ensure clean, consistent debinding. Wash

cycles typically range from 12 to 72 hours depending on part geometry, and the system automatically calculates optimal wash durations via the Eiger software.

Bambu Lab X1 Carbon with AMS: A high-performance CoreXY FFF 3D printer featuring a rigid, enclosed carbon-fiber frame, dual auto bed leveling (Lidar + touch), 300 °C all-metal hot end with hardened steel nozzle, and ultra-fast motion (500 mm/s, 20 000 mm/s²), enabling production-quality prints with advanced and composite materials (PA, PC, TPU, carbon/glass fiber composites) in a 256 × 256 × 256 mm build volume . Its add-on Automatic Material System (AMS), supports up to four spools per unit, providing humidity-controlled storage, RFID filament detection, filament runout/tension monitoring, and seamless mid-print material/color switching all managed via the AMS 2 Pro's drying and feeding features.

APSX PIM Injection Machine: The APSX-PIM is an automatic plastic injection molding machine that makes injection molding affordable and easy. It is a Heavy-Duty machine for continuous or single cycle plastic part production.

Instron Tensile/Compressive Testing Machine: Tensile testing is a fundamental type of mechanical testing performed by engineers and materials scientists in manufacturing and research facilities all over the world. A tensile test (or tension test) applies force to a material specimen in order to measure the material's response to tensile (or pulling) stress. This type of testing provides insight into the mechanical properties of a material and enables product designers to make informed decisions about when, where, and how to use a given material.

CELLINK INKREDIBLE+: A compact, user-friendly pneumatic extrusion 3D bioprinter designed for advanced applications in tissue engineering, drug testing, and biomaterials research. Equipped with dual printheads, built-in UV LED crosslinking, and a heated printhead option, it enables precise multi-material and temperature-sensitive bioprinting. Its sterile Clean Chamber Technology eliminates the need for an external biosafety cabinet, while its high-resolution extrusion (10 µm XY) ensures consistent, reproducible results. With an intuitive interface and small benchtop footprint, the INKREDIBLE+ makes sophisticated bioprinting accessible for research labs aiming to fabricate complex, cell-laden structures.

Haas Desktop Mill: A compact, educational benchtop CNC mill designed to teach programming and operation on the same full-featured Haas control used in production machines. It operates on single-phase 120V or 220V power, has a 15,000 rpm ER11 spindle, and offers X/Y/Z travels of approximately 6" × 10" × 3", making it ideal for machining plastics, wax, and light materials. With Ethernet/Wi-Fi connectivity, a pen-holder conversion for drawing toolpaths, and software capabilities like Haas Visual Programming, it turns any workspace into a hands-on CNC lab perfect for classrooms, hobbyists, or benchtop machinists learning real CNC workflows.

Haas Desktop Lathe: A compact, portable benchtop CNC lathe engineered for education, prototyping, and hobbyist use. It replicates the full functionality of Haas's industrial CNC control—networked via Ethernet/Wi-Fi and capable of displaying setup sheets or videos using

M-codes, for real-world skill development. Featuring a 63 mm (2.5”) chuck, 3,000 rpm spindle, 1.5 hp motor, two-axis (X/Z) motion, and a six-station turret, it handles materials like brass, plastics, and wax, and even includes wedge clamps and an anti-rotation pin for secure part holding. Designed to fit on a desktop or rolling toolbox, the Desktop Lathe offers hands-on CNC experience in any workspace, ideal for classrooms, technical training, and benchtop machinists.

Mayku FormBox: A desktop vacuum former that transforms heated plastic sheets into intricate molds or final parts in under two minutes, using the suction power of your own vacuum cleaner. With a 200×200 mm forming bed, a 1,000 W ceramic heater (160–340 °C), and an intuitive timer/temperature control, it enables rapid prototyping, mold-making, and small-batch production using materials like PET-G, HIPS, ABS, concrete, plaster, chocolate, and more. Ideal for makers, educators, and product developers, the FormBox offers factory-level thermoforming on a bench-top. It is perfect for replicating detailed shapes, producing clear packaging, or crafting food-safe molds, all without needing CAD skills or expensive equipment.

Mayku Multiplier: A professional-grade desktop pressure former designed to deliver injection-mold-quality parts directly from your workspace. The machine utilizes a built-in compressor operating at 150 PSI (10.3 bar) to apply up to 60 PSI (4.1 bar) of forming pressure, ensuring precise and consistent results. Its compact design allows it to fit on a standard workbench, making it suitable for rapid prototyping, small-batch production, and educational applications.

Skat Blast: An abrasive blasting cabinet, designed for efficiently removing rust, paint, and scale from various parts. It features a spacious 46"W x 28"D x 28"H work area, accommodating large components, and includes two 115-volt LED floodlights and a large window for enhanced visibility. The cabinet operates with a C-35-M Foot-Pedal-Operated Power Gun and a "no surge" pickup tube system for a powerful, consistent blast, along with an automatic abrasive recycling system that requires 10-15 cfm at 80 psi. A Quiet Vac-55 HEPA Vacuum is integrated to collect 99.97% of dust particles, ensuring a clean operation. Constructed from durable 11-20 gauge USA steel, it also boasts a side-loading door, molded gloves, and lens trim to prevent leaks, and an expanded metal screen that can hold up to 200 lbs.

Academic Programs

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Liberal Arts
Social Work

Associates of Science

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Professional Driver Training – CDL

Certificate**s**

Dakota Language
Administrative Assistant