**Black Hawk College (catalog sample)**[**CNC Manufacturing Certificates 1 & 2**](http://www.bhc.edu/2014/04/cnc-manufacturing-certificates-1-2/)

*Last updated 4/9/2014*

*Certificate Code 5980 and 5981*

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Graduates of the CNC Manufacturing Certificates will be equipped with industry knowledge and skills to work as entry level CNC Machinists and Operators. CNC Machinists and Operators setup and operate a variety of computer-controlled or mechanically-controlled machine tools to produce precision parts, instruments, and tools. They work in machine shops, tool rooms, and on factory floors.

The program is divided into two separate certificates: CNC Manufacturing Certificate 1 and CNC Manufacturing Certificate 2 in order to allow flexibility for employment opportunities.

Completion of the CNC Manufacturing Certificate 1 is a prerequisite for CNC Manufacturing Certificate 2, and students are strongly encouraged to complete both certificates.

The CNC Manufacturing Certificate is also part of the Accelerating Opportunity I-CAPS initiative targeted for students who also participate in an additional required support class.

**CNC Manufacturing Certificate 1***Certificate Code 5980* **Course of Study Outline – (Credit Hours)**
**Fall Semester**
\*ENGT 101 — Blueprint/Schematic Reading (1st 8 weeks) (3)
ENGT 104 — Fundamentals of Machining (1st 8 weeks) (2)
ENGT 180 — Introductory CNC (2nd 8 weeks) (3)
ENGT 186 — Introductory CNC (2nd 8 weeks) (3)
MATH 123 — Technical Algebra/Trigonometry (4)
***Minimum total hours required for a certificate (15)***

**CNC Manufacturing Certificate 2***Certificate Code 5981* **Course of Study Outline – (Credit Hours)**
**Spring Semester**
ENGT 231 — Lathe Operations (1st 8 weeks) (3)
ENGT 236 — Intermediate CNC (1st 8 weeks) (3)
ENGT 232 — Milling Operations (2nd 8 weeks) (3)
\*ENGT 190 — Engineering Tech Practicum (2)
ENGT 286 — Advance CNC with CAM (3)
***Minimum total hours required for a certificate (29)***