

Level 1
NWCCU

ACADEMIC SENATE PROPOSAL TRACKING SHEET

(Document To Be Originated By Academic Senate Secretary On Canary Color Paper)

All proposals MUST have their originating college faculty body (Ex. Arts & Sciences, Education and Nursing; Technical Sciences) approval and must be signed by the submitter and the college dean before being submitted to the Academic Senate Secretary.

1. Submit all proposals (using the appropriate Academic Senate program/degree and/or course revision forms) to the Academic Senate Secretary.
2. The Academic Senate Secretary logs and numbers items and forwards them to the appropriate Academic Senate subcommittee(s): General Education (if applicable), or Curriculum.
3. The Academic Senate subcommittee(s) consider(s) the proposal. If approved, the proposal is forwarded to the next committee. If a committee disapproves the proposal, the originator may request that the item be forwarded to the next body for consideration. The committee will provide written rationale to the originator when a proposal is disapproved and the proposal is returned to the originator.
4. The Academic Senate considers the proposal and approves or disapproves. If approved, the proposal is forwarded to the Full Faculty for consideration. If the Academic Senate disapproves the proposal, the originator may request that the item be forwarded to the Full Faculty for consideration. The Academic Senate will provide written rationale to the originator when proposals are disapproved and the proposal is returned to the originator.
5. The Full Faculty considers Academic Senate approved proposals. If faculty approve, the proposal will then be forwarded to the Provost. The Provost approves or disapproves the proposal. If approved, the proposal is then forwarded to the Chancellor.
7. The Chancellor approves or disapproves the proposal.

Subcommittee and Academic Senate college representatives will notify their respective colleges' of the progress of submitted proposals or the proposal may be tracked via the web page --

<http://www.msun.edu/admin/provost/asproposals.htm>

Documentation and forms for the curriculum process is also available on the web page:

<http://www.msun.edu/admin/provost/asforms.htm>

*****(If a proposal is disapproved at any level, it is returned through the Academic Senate secretary to the Dean of the submitting college who then notifies the originator.)

Proposal #	10-14	Title:	Manufacturing AAS Proposal
------------	-------	--------	----------------------------

(proposal explanation, submitter and college dean signatures on attached program/degree or course revision form)

	Date	Approved	Disapproved
Received by ACAD Senate	03-11-11		
Forwarded to Gen Ed Committee		Signature _____	Date _____
Returned to ACAD Senate			
Forwarded to Curriculum Committee	3-22-11	Approved <input checked="" type="checkbox"/> Disapproved _____	
Returned to ACAD Senate	4-15-11	Signature _____	Date _____
Forwarded to Graduate Council		Approved _____ Disapproved _____	
Returned to ACAD Senate for Vote	4-19-11	Approved <input checked="" type="checkbox"/> Disapproved _____	4-28-11
Forwarded to Provost for Approval/Disapproval	4-29-11	Approved <input checked="" type="checkbox"/> Disapproved _____	1-13-12
Forwarded to Chancellor for Approval/Disapproval	1-17-12	Approved _____ Disapproved _____	1-17-12



Copies sent to originating college and _____

Associate of Applied Science in Manufacturing Technology

Need:

Students have indicated the desire for more training within computer aided manufacturing and employers have requested an increase in the number of graduates. Although the current Certificate of Applied Science in Welding Technology has been a good fit for supplying certified welders for many years, upgrades in equipment, technology, and welding processes have necessitated a change in requirements to produce qualified graduates that can program and operate computer aided manufacturing and automated welding processes. The expansion of the Certificate program in welding to an Associate of Applied Science Degree in manufacturing will allow instructors to address topics in automating Welding Technology and Computer Aided Manufacturing. The addition of the Associate of Applied Science Degree will be a natural expansion of offerings in Northern's Industrial Technology program.

The recent purchase of a welding robot with offline programming software and a donation from Lincoln Electric of a computer monitored semiautomatic welder has provided Northern with the opportunity to train on the latest and most advanced welding automation technologies. State of the art Haas CNC Mills and Lathes provides the opportunity for Northern faculty to teach processes, techniques, and equipment operation for CAD/CAM operations.

The addition of the Associate of Applied Science degree will also expand the number of access points students will have to enter and exit a degree in a metals-related field at Northern and complement transfer agreements across the state. The combination of current Certificates of Applied Science in Welding, along with Associate of Applied Science Degrees in Metals Manufacturing could be used to provide students and employers more options in metals-related fields. Northern believes these increased options for students will increase enrollment, student satisfaction, and employer satisfaction.

COURSE REVISION FORM

NEW X DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College COTS Program Area Metals Manufacturing AAS Date 02/01/11

Submitter Virgil Hawkinson Dean [Signature] Date 3-18-2011
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
New course for new degree

Please provide the following information:

College: COTS
Program Area: Metals Manufacturing AAS
Date: 02/01/11
Course Prefix & No.: MACH 2XX

Course Title: CNC Machining
Credits: 3

Required by: Metals Manufacturing AAS
Industrial Technology BS

Selective in:
Elective in:
General Education:

Lecture:
Lecture/Lab:
Gradable Lab:
Contact hours lecture: 1 hr
Contact hours lab: 4 hr

Current Catalog Description (include all prerequisites):

Proposed or New Catalog Description (include all prerequisites): An introduction to the fundamentals and applications of Computer Numerical Control in machining. Course content includes machine configurations, CNC process flow, visualization of program execution, coordinate systems, types of motion, tool length compensation, and program formatting. Prerequisites: METL 155 Machining Processes

Course Outcome Objectives:

Learning Outcomes

By successfully completing this course, students will be able to:

- Define machine configurations.
- Define the flow of the CNC process.
- Describe visualizing the execution of a CNC program.
- Define program zero and the rectangular coordinate system.

- Summarize the preparations needed for programming.
- Define motion types.
- Describe tool length compensation.
- Summarize program formatting.
- Summarize canned cycles
- Demonstrate mastery of lesson content at levels of 70% or higher.

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Updated 09/29/05