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MCNC Coordinator  
Bldg. E2 Rm. E26A  
408-864-8283

Applied Technologies  
Division  
ATC Room 209  
408-864-8772

Counseling Center  
Student and Community  
Services Bldg. 2nd Fl.  
408-864-5400

Career Center  
Student and Community  
Services Bldg. 2nd Fl.  
408-864-5711

**Skills Certificate** (visit Department for assistance/to apply)

A passing grade ("C" or better/"P") in each required course.  
Note: each course must be completed at De Anza College.

**Certificate of Achievement** (visit Counseling for assistance/to apply)

A minimum "C" grade in each major course.  
Note: A maximum of six (6) quarter units may be transferred from other academic institutions.

**Certificate of Achievement-Advanced** (visit Counseling for assistance/to apply)

1. A minimum "C" grade in each major course.
2. Demonstrated proficiency in English and mathematics as evidenced by eligibility for EWRT 1A or ESL 5 and eligibility for MATH 114.  
Note: A maximum of 18 quarter units may be transferred from other academic institutions.

**A.A./A.S. Degree** (visit Counseling for assistance/to apply)

1. Completion of all General Education (GE) requirements (31-42 quarter units) for the A.A./A.S. degree. GE units must be completed with a minimum 2.0 GPA ("C" average).
2. Completion of all major requirements. Each major course must be completed with a minimum "C" grade.  
Major courses can also be used to satisfy GE requirements (except for Liberal Arts degrees).  
Note: A maximum of 22 quarter units from other academic institutions may be applied toward the major.
3. Completion of a minimum of 90 degree-applicable quarter units (GE and major units included). All De Anza courses must be completed with a minimum 2.0 GPA ("C" average). All De Anza courses combined with courses transferred from other academic institutions must be completed with a minimum 2.0 GPA ("C" average).  
Note: A minimum of 24 quarter units must be earned at De Anza College.

Major courses for certificates and degrees must be completed with a letter grade unless a particular course is offered on a pass/no-pass basis only.

**CAD/CAM - Mastercam**

**Skills Certificate**

Skills Certificates (programs requiring fewer than 18 units) are issued by the individual departments and are not notated on official college transcripts. Please contact the department directly for assistance and to apply for Skills Certificates.

Complete each required course at De Anza College with a passing grade ("C" or better/"P").

- Complete one (1) course from: 4.5  
MCNC 76A - 76E series (introductory) (4.5 each)  
CAD/CAM Based CNC Programming Using Mastercam
  - Complete one (1) course from: 4.5  
MCNC 76F - 76K series (4.5 each)  
CAD/CAM Based CNC Programming Using Mastercam
  - Complete one (1) course from: 4.5  
MCNC 76L - 76Q series (4.5 each)  
Advanced CAD/CAM Based CNC Programming  
Using Mastercam
- Total Units Required . . . . . 13.5

**CNC Machine Operator**

**Skills Certificate**

Skills Certificates (programs requiring fewer than 18 units) are issued by the individual departments and are not notated on official college transcripts. Please contact the department directly for assistance and to apply for Skills Certificates.

Complete each required course at De Anza College with a passing grade ("C" or better/"P").

MCNC 71	Introduction to Machining & CNC Processes	4.5
MCNC 75A	Intro. to Computer-Aided Numerical Control (CNC) Programming and Operation: Mills	4.5
MCNC 75B	Computer-Aided Numerical Control (CNC) Programming & Operation: Lathes, Adv. Mills	4.5
	Total Units Required . . . . .	13.5

**CNC Machinist**

**Certificate of Achievement-Advanced**

Complete the following and meet the corresponding certificate requirements.

Complete two (2) units from:		2
MCNC 56	Special Projects in Manufacturing and CNC (1)	
MCNC 56X	Special Projects in Manufacturing and CNC (2)	
Complete the following:		
MCNC 64	Manufacturing Materials and Processes	4
MCNC 71	Introduction to Machining and CNC Processes	4.5
MCNC 72	Applied Geometric Inspection Dimensioning and Tolerancing; Coordinate Measuring Machines	3
MCNC 75A	Intro. to Computer-Aided Numerical Control (CNC) Programming and Operation: Mills	4.5
MCNC 75B	Computer-Aided Numerical Control (CNC) Programming & Operation: Lathes, Adv. Mills	4.5
MCNC 75C	CNC Lathes & Horizontal Machining Centers; Programming & Operation, 4th Rotary Axis, Fixture Design	4.5
Complete one (1) course from:		4.5
MCNC 76A - 76E series (introductory) (4.5 each)	CAD/CAM Based CNC Programming Using Mastercam	
Complete one (1) course from:		4.5
MCNC 76F - 76K series (4.5 each)	CAD/CAM Based CNC Programming Using Mastercam	
Complete one (1) course from:		4.5
MCNC 76L - 76Q series (4.5 each)	Advanced CAD/CAM Based CNC Programming Using Mastercam	
Total Units Required . . . . .		40.5

**CNC Machinist**

**A.S. Degree**

Complete the Certificate of Achievement-Advanced requirements for the major and meet the A.A./A.S. degree requirements.		
Major	Requirements for CNC Machinist Cert. of Achievement-Advanced	40.5 units
GE	General Education (31-42 units)	
Electives	Elective courses req'd. when major units plus GE units total is less than 90	
Total Units Required . . . . .		90 units

## CNC Research and Development Machinist Certificate of Achievement-Advanced

Complete the following and meet the corresponding certificate requirements.

MCNC 64	Manufacturing Materials and Processes	4
MCNC 71	Introduction to Machining and CNC Processes	4.5
MCNC 72	Applied Geometric Inspection Dimensioning & Tolerancing; Coordinate Measuring Machines	3
MCNC 75A	Intro. to Computer-Aided Numerical Control (CNC) Programming and Operation: Mills	4.5
MCNC 75B	Computer-Aided Numerical Control (CNC) Programming & Operation: Lathes, Adv. Mills	4.5
MCNC 75C	CNC Lathes & Horizontal Machining Centers; Programming & Operation, 4th Rotary Axis, Fixture Design	4.5
MCNC 77	Conventional Machine Tools, Tool Design, Abrasive Machining	4.5
AUTO 53A	Automotive Mechanisms	3
AUTO 53B	Electromechanical Systems	2
<i>Complete one (1) course from:</i>		4.5
MCNC 76A - 76E series (introductory) (4.5 each)		
CAD/CAM Based CNC Programming Using Mastercam		
<i>Complete one (1) course from:</i>		4.5
MCNC 76F - 76K series (4.5 each)		
CAD/CAM Based CNC Programming Using Mastercam		
<i>Complete one (1) course from:</i>		4.5
MCNC 76L - 76Q series (4.5 each)		
Advanced CAD/CAM Based CNC Programming Using Mastercam		

Total Units Required . . . . . 48

## CNC Research and Development Machinist A.S. Degree

Complete the Certificate of Achievement-Advanced requirements for the major and meet the A.A./A.S. degree requirements.

Major	Requirements for CNC Research and Development Machinist Cert. of Achievement-Advanced	48 units
GE	General Education (31-42 units)	
Electives	Elective courses req'd. when major units plus GE units total is less than 90	
Total Units Required . . . . .		90 units

## Manufacturing Systems Technician Certificate of Achievement<sup>†</sup>

Complete the following and meet the corresponding certificate requirements.

AUTO 53A	Automotive Mechanisms	3
AUTO 53B	Electromechanical Systems	2
MCNC 64	Manufacturing Materials and Processes	4
MCNC 71	Introduction to Machining & CNC Processes	4.5
MCNC 75A	Intro. to Computer-Aided Numerical Control (CNC) Programming and Operation: Mills	4.5
MCNC 77	Conventional Machine Tools, Tool Design, Abrasive Machines	4.5
Total Units Required . . . . .		22.5

## Product Model Making Certificate of Achievement-Advanced

Complete the following and meet the corresponding certificate requirements.

ARTS 10A	Three Dimensional Design and Lab	3
ARTS 10B	Advanced Three Dimensional Design and Lab	3
MCNC 64	Manufacturing Materials and Processes	4
MCNC 71	Introduction to Machining & CNC Processes	4.5
MCNC 75A	Intro. to Computer-Aided Numerical Control (CNC) Programming and Operation: Mills	4.5
MCNC 75B	Computer-Aided Numerical Control (CNC) Programming & Operation: Lathes, Adv. Mills	4.5
<i>Complete one (1) course from one (1) of these series:</i>		4
CDI 60A-F	SolidWorks (Beginning) (4 each)	
CDI 70A-F	Pro/ENGINEER (Beginning) (4 each)	
<i>Complete one (1) course from:</i>		4.5
MCNC 76A - 76E series (introductory) (4.5 each)		
CAD/CAM Based CNC Programming Using Mastercam		
<i>Complete one (1) course from:</i>		4.5
MCNC 76F - 76K series (4.5 each)		
CAD/CAM Based CNC Programming Using Mastercam		
<i>Complete one (1) course from:</i>		4.5
MCNC 76L - 76Q series (4.5 each)		
Advanced CAD/CAM Based CNC Programming Using Mastercam		
Total Units Required . . . . .		41

## Product Model Making A.S. Degree

Complete the Certificate of Achievement-Advanced requirements for the major and meet the A.A./A.S. degree requirements.

Major	Requirements for Product Model Making Cert. of Achievement-Advanced	41 units
GE	General Education (31-42 units)	
Electives	Elective courses req'd. when major units plus GE units total is less than 90	
Total Units Required . . . . .		90 units

<sup>†</sup> This program was submitted for State approval. Please check with the department for the status.