

LRNA 97 Introduction to Peer Tutoring in Writing 3 Units

Advisory: English Writing 1A or English as a Second Language 5.
 (Also listed as English Writing 97. Student may enroll in either department, but not both, for credit.)
 Three hours lecture.
 Required training for De Anza writing tutors. Introduction to the theory and practice of tutoring writing, including strategies and approaches to help students from diverse linguistic backgrounds at various stages of the writing process. Students read about, observe, discuss, write about and practice the craft of tutoring writing. After an initial orientation, students in the class begin tutoring, and reflect on their tutoring experiences as part of the class.

LRNA 98 Tutor Training 1 Unit

Credit course - Does not apply to De Anza Associate degree.
Advisory: Must be selected to work as a De Anza tutor.
 One hour lecture.
 Pass-No Pass (P-NP) course.
 Required of all De Anza group and individual tutors during their first quarter of tutoring. Strategies and communications skills to help peer tutors conduct productive, effective, and fun tutoring sessions. Experience reflecting on instructional and learning theory and practicing theory-based tutoring techniques. Strategies for working with students from diverse backgrounds and with various learning styles. Self-reflection and peer feedback on actual tutoring sessions.

LRNA 100 Supervised Learning Assistance 0 Units

Non-credit course - Does not apply to De Anza Associate degree.
 Two hours lecture-laboratory.
 (No limit on repeatability for 0 unit classes.)
 Pass-No Pass (P-NP) course.
 Learning assistance to students in need of special supplemental instruction for specific courses.

Learning Center

LCEN 50 Introduction to Online Research 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Two hours lecture-laboratory.
 Introduces skills needed to locate, evaluate, and cite information found on the Internet and in subscription databases. Prepares students to do the basic research necessary to effectively complete written and oral assignments.

LCEN 51 Business Resources on the World Wide Web 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Two hours lecture-laboratory.
 Locate, examine, and evaluate business-related sites available on the World Wide Web.

LCEN 53 Advanced Internet Search Techniques 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Two hours lecture-laboratory.
 Provides Internet users with tools and information to effectively search and evaluate Internet Web sites. Also introduces the concept of the "hidden web" -- information that is not indexed by search engines such as Google and Yahoo.

LCEN 55 Emerging Internet Technologies: A Crash Course 1 Unit

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Two hours lecture-laboratory.
 Introduces students to emerging Internet technologies and links these ongoing transitions to information research. Currently referred to as "Web 2.0," today's Internet includes photography and image postings, blogs, wikis, and RSS feeds. Skills for locating and using these new applications will be studied.

Linguistics

LING 1 Introduction to Linguistics 4 Units

(See general education pages for the requirement this course meets.)
Advisory: English Writing 1A or English as a Second Language 5.
 (Also listed as English Literature 25. Student may enroll in either department, but not both, for credit.)
 Four hours lecture.
 Introduction to the nature of language. Origin and development of spoken and written languages, how people learn languages, and how languages change, with emphasis on the history of English. Basics of linguistic description including systems of phonetics and phonology, semantics, morphology and syntax. Study of general linguistic principles as they apply across languages.

Mandarin

MAND 1 Elementary Mandarin (First Quarter) 5 Units

(See general education pages for the requirement this course meets.)
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Five hours lecture, one hour laboratory.
 Introduction to the language and cultures of Mandarin-speaking countries and communities. Basic speaking, listening, reading, and writing of Mandarin will be introduced and practiced within a cultural framework. Mandarin will be the primary language of instruction. Emphasis will be on language as an expression of culture and a medium of communication. Language laboratory practice will be part of the regular instruction to reinforce pronunciation, grammar, syntax, and conversation.

MAND 2 Elementary Mandarin (Second Quarter) 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Mandarin 1.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Five hours lecture, one hour laboratory.
 Further development of material presented in Mandarin 1. Continuation of introduction to the language and cultures of Mandarin-speaking countries and communities. Speaking, listening, reading, and writing of Mandarin will be continued and practiced within a cultural framework. Mandarin will be the primary language of instruction. Emphasis will be on language as an expression of culture and a medium of communication. Language laboratory practice will be part of the regular instruction to reinforce pronunciation, grammar, syntax, and conversation.

MAND 3 Elementary Mandarin (Third Quarter) 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Mandarin 2.
Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Five hours lecture, one hour laboratory.
 Further development of material presented in Mandarin 1 and 2. Completion of introduction to the language and cultures of Mandarin-speaking countries and communities. Basic speaking, listening, reading, and writing of Mandarin will be introduced and practiced within a cultural framework. Mandarin will be the primary language of instruction. Emphasis will be on language as an expression of culture and a medium of communication. Language laboratory practice will be part of the regular instruction to reinforce pronunciation, grammar, syntax, and conversation.

MAND 4 Intermediate Mandarin (First Quarter) 5 Units

(Formerly Mandarin 94.)
(See general education pages for the requirement this course meets.)
Prerequisite: Mandarin 3 or demonstrated proficiency in the language competency description of level three.
 Five hours lecture, one hour laboratory.
 Read and discuss texts dealing with geography, history, social and cultural practices of the Chinese-speaking world. Review the linguistic functions and grammatical structures of first-year Chinese. Speaking, listening, reading, and writing of Mandarin will be introduced and practiced within a cultural framework. Mandarin will be the primary language of instruction. Emphasis will be on language as an expression of culture and a medium of communication. Develop reading, listening, speaking and writing skills at the high intermediate level. Language laboratory practice will be part of the regular instruction to reinforce pronunciation, grammar, syntax, and conversation.

MAND 5 Intermediate Mandarin (Second Quarter) 5 Units

(Formerly Mandarin 95.)
(See general education pages for the requirement this course meets.)
Prerequisite: Mandarin 4 or demonstrated proficiency in the language competency description of level four.
 Five hours lecture, one hour laboratory.
 Continuation of Mandarin 4. Read and discuss texts dealing with geography, history, social and cultural practices of the Chinese-speaking world. Review the linguistic functions and grammatical structures of intermediary Chinese. Speaking, listening, reading, and writing of Mandarin will be introduced and practiced within a cultural framework. Mandarin will be the primary language of instruction. Emphasis will be on language as an expression of culture and a medium of communication. Develop reading, listening, speaking and writing skills at the low advanced level. Language laboratory practice will be part of the regular instruction to reinforce pronunciation, grammar, syntax, and conversation.

De Anza College is
 a smoke-free campus



MAND 6 Intermediate Mandarin (Third Quarter) 5 Units
(Formerly Mandarin 96.)

(See general education pages for the requirement this course meets.)
Prerequisite: Mandarin 5 or demonstrated proficiency in the language competency description of level five.

Five hours lecture, one hour laboratory.

Continuation of Mandarin 5. Read, discuss and analyze texts dealing with arts, geography, history, literature, social and cultural practices of the Chinese-speaking world. Review the linguistic functions and grammatical structures of intermediary Chinese. Speaking, listening, reading, and writing of Mandarin will be introduced and practiced within a cultural framework. Mandarin will be the primary language of instruction. Emphasis will be on language as an expression of culture and a medium of communication. Develop reading, listening, speaking and writing skills at the advanced level. Language laboratory practice will be part of the regular instruction to reinforce pronunciation, grammar, syntax, and conversation.

MAND 50A Intermediate Conversation (First Quarter) 3 Units

Prerequisite: Mandarin 90C or equivalent.

Three hours lecture.

The first course in the intermediate conversation Mandarin course sequence, following Mandarin 90C. Continues the introduction to the language and cultures of Mandarin-speaking countries and communities. The vocabulary and grammatical structures mastered in Mandarin 90C will be consolidated and further developed, in conjunction with elements of Chinese culture. Elements of Chinese for business are further introduced. Mandarin 13A is focused on speaking and comprehension proficiency near native speaker level.

MAND 50B Intermediate Conversation (Second Quarter) 3 Units

Prerequisite: Mandarin 50A or equivalent.

Three hours lecture.

The next course in the intermediate conversation Mandarin course sequence, following Mandarin 50A. Continues the introduction to the language and cultures of Mandarin-speaking countries and communities. The vocabulary and grammatical structures mastered in Mandarin 50A will be consolidated and further developed, in conjunction with elements of Chinese culture. Elements of Chinese for business are further introduced including a meeting conversation. Mandarin 50B is focused on speaking and comprehension proficiency near native speaker level.

MAND 50C Intermediate Conversation (Third Quarter) 3 Units

Prerequisite: Mandarin 50B or equivalent.

Three hours lecture.

The advanced level of conversation, following Mandarin 50B. Continues the introduction to the language and cultures of Mandarin-speaking countries and communities. The vocabulary and grammatical structures mastered in Mandarin 50B will be consolidated and further developed, in conjunction with elements of Chinese culture. Elements of Chinese for business are further introduced including make business presentations, conducting simple business negotiations, and travel Chinese. Mandarin 50C is focused on speaking and comprehension proficiency at native speaker level.

MAND 90A Introductory Conversation (First Quarter) 3 Units

Three hours lecture.

Introduction to the language and cultures of Mandarin-speaking countries and communities. Spoken Chinese will be introduced with focus on pronunciation and vocabulary, in connection with elements of Chinese culture necessary to understand the language. Intensive drills in the patterns and idioms of daily speech will be supported by sufficient grammar to give flexibility in the spoken language.

MAND 90B Introductory Conversation (Second Quarter) 3 Units

Prerequisite: Mandarin 90A.

Three hours lecture.

The next course in the introductory conversation Mandarin course sequence, following Mandarin 90A. Continues the introduction to the language and cultures of Mandarin-speaking countries and communities. The vocabulary and grammatical structures mastered in Mandarin 90A will be consolidated and further developed, in conjunction with elements of Chinese culture. The course emphasizes practical communication for everyday use and business, particularly conversational fluency.

MAND 90C Introductory Conversation (Third Quarter) 3 Units

Prerequisite: Mandarin 90B.

Three hours lecture.

The next course in the introductory conversation Mandarin sequence, following Mandarin 90B. Continues the introduction to the language and cultures of Mandarin-speaking countries and communities. The vocabulary and grammatical structures mastered in Mandarin 90B will be consolidated and further developed, in conjunction with elements of Chinese culture. Elements of Chinese for business are introduced. Mandarin 90C is focused on speaking and comprehension proficiency.

Manufacturing and CNC Technologies**MCNC 56 Special Projects in Manufacturing and CNC 1 Unit**

MCNC 56X 2 Units
MCNC 56Y 3 Units

(Formerly Manufacturing and Design Technology 56, 56X, Y.)

Prerequisite: Approved special projects contract and appropriate technical background to support the completion of project objectives.

Three hours laboratory for each unit of credit.

(Any combination of Manufacturing and CNC 56, 56X, and 56Y may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)

Projects advancing student's knowledge and experience in a selected area of Manufacturing and CNC Technology. Project type and design will be determined through consultation with the instructor.

MCNC 61A Survey of Writing and Data Communications 2 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263, or equivalent, keyboarding skills 40 words/minute minimum.

Four hours lecture-laboratory.

The application of word processing and spreadsheet programs to communicate technical information used in various fields of technology including manufacturing, product design, nursing, and similar disciplines.

MCNC 61B Project Designer's Portfolio 2 Units

Prerequisite: Manufacturing and CNC 61A with a grade of C or better.

Four hours lecture-laboratory.

Overview of the steps and procedures required to plan, develop and promote a manufactured product or business related project. Completion of a project designer's portfolio for submission to potential employers.

MCNC 62A Technical Calculations 2 Units

(Formerly Manufacturing and Design Technology 62A.)

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

Four hours lecture-laboratory.

The application of fundamental mathematics to various fields of technology including machining, automotive, sheet metal, and similar disciplines. Review and development of arithmetic skills, introduction of basic algebraic concepts and metric conversion. The use of a scientific calculator in problem solving will be emphasized.

MCNC 62B Technical Calculations 2 Units

(Formerly Manufacturing and Design Technology 62B.)

Prerequisite: Manufacturing and CNC 62A.

Four hours lecture-laboratory.

The application of fundamental mathematics to various fields of technology including machining, automotive, mechanical drafting, sheet metal, nursing and similar disciplines. Review and development of algebraic skills, plane geometry, geometric constructions, and trigonometric concepts. The use of a scientific calculator in problem solving is essential.

MCNC 62C Advanced Technical Calculations 2 Units

Prerequisite: Manufacturing and CNC 62B with a grade of C or better.

Four hours lecture-laboratory.

Review and development of fundamental algebraic operations on real numbers and real variables with emphasis on linear functions and equations, polynomials, rational expressions and equations, and plane geometry. Elementary trigonometry and their applications as they relate to applied technologies.

MCNC 64 Manufacturing Materials and Processes 4 Units

(Formerly Manufacturing and Design Technology 64.)

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Manufacturing and CNC 62A or; Mathematics 112 or equivalent.

Two hours lecture, four hours lecture-laboratory.

Applied materials and process analysis, materials and process selection techniques. The role of metals, polymers, ceramics and composites in the casting, molding, forging, forming, machining, joining, and heat and surface treatment processes.

MCNC 71 Introduction to Machining and CNC Processes 4 1/2 Units

Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.

Nine hours lecture-laboratory.

Manufacturing lab safety. Precision measuring tools and practices. Basic manual machine operations: pedestal grinders, drill presses, saws, lathes and milling machines. Threads: types, applications and use of taps and dies. Computer Numerical Control (CNC) mills: axis moves, cutters, tooling, basic setup and controller functions. Cutter and machine speed and feed calculations.

<p>MCNC 72</p> <p><i>(Formerly Manufacturing and Design Technology 72.)</i> <i>Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; experience in blueprint reading.</i> <i>Six hours lecture-laboratory.</i></p>	<p>Applied Geometric Inspection Dimensioning and Tolerancing (ANSI Y14.5m); Coordinate Measuring Machines (CMM) 3 Units</p> <p>Interpretation of specifications and inspection procedures related to current ASME Y 14.5 Geometric Dimensioning and Tolerancing (GD&T) standards. Applications and capabilities of precision measuring tools, including the computer-aided Coordinate Measuring Machine (CMM), used in manufacturing environments to inspect discrete complex parts. Machine and inspected part setup for measuring form, orientation, and position callouts.</p>		
<p>MCNC 74A</p> <p><i>(Formerly Manufacturing and Design Technology 54E.)</i> <i>Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.</i> <i>Four hours lecture-laboratory.</i> <i>(May be taken two times for credit if software is different each time.)</i></p>	<p>Survey of Computer Drawings 2 Units</p> <p>Principles and applications of computer drawings using industry standard software. Emphasis on 3-D and articulated drawings.</p>		
<p>MCNC 74B</p> <p><i>(Formerly Manufacturing and Design Technology 54F.)</i> <i>Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent.</i> <i>Four hours lecture-laboratory.</i></p>	<p>Survey of Computer Aided Design 2 Units</p> <p>Principles and applications of computer aided design (CAD) using industry standard software. Emphasis on 2D drawings.</p>		
<p>MCNC 74D</p> <p><i>Prerequisite: Manufacturing and CNC 62B and 74B with a grade of C or better, or equivalent.</i> <i>Advisory: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.</i> <i>Four hours lecture-laboratory.</i></p>	<p>Survey of Industrial Mechanisms 2 Units</p> <p>The application of basic physical principles to the operation and design of mechanical and hydraulic mechanisms.</p>		
<p>MCNC 75A</p> <p><i>Advisory: Manufacturing and CNC 71 or experience in machining processes; English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.</i> <i>Nine hours lecture-laboratory.</i></p>	<p>Introduction to Computer-Aided Numerical Control (CNC) Programming and Operation; Mills 4 1/2 Units</p> <p>Introduction to mill tool path programming using G and M code format. CNC systems and components including machine controller functions and operations. Program entry, editing, and back plotting. Calculation for mill and lathe cutter compensation. Precision inspection techniques and basic mill setups, including cutting tool selection, and work holding.</p>		
<p>MCNC 75B</p> <p><i>Prerequisite: Manufacturing and CNC 75A with a grade of C or better or equivalent.</i> <i>Nine hours lecture-laboratory.</i></p>	<p>Computer-Aided Numerical Control (CNC) Programming and Operation; Lathes, Advanced Mills 4 1/2 Units</p> <p>Introduction to lathe tool path programming using word address format, including coordinate system, cutter compensation and canned cycles. Advanced mill programming; sub programs, work coordinate system and use of macros. Program entry, editing, and back plotting. Machine controller functions and operations. Single point threading and Unified thread form classes and measurement. Cutting tool insert selection.</p>		
<p>MCNC 75C</p> <p><i>Prerequisite: Manufacturing and CNC 75B with a grade of C or better.</i> <i>Nine hours lecture-laboratory.</i></p>	<p>CNC Lathes & Horizontal Machining Centers; Programming and Operation, 4th Rotary Axis, Fixture Design 4 1/2 Units</p> <p>CNC lathe tool path programming using G&M code format, including tool orientation and compensation and canned cycles. Programming for CNC horizontal machining centers and 4th axis rotary tables. Horizontal machining center and lathe controller functions, setup and operations. Fixture design for mills and lathes; base plate layout, supporting, locating, and clamping practices.</p>		
<p>MCNC 76A</p> <p><i>(Students may receive credit for only one Manufacturing and CNC 76 course with an A through E designation.)</i> <i>Advisory: Basic understanding of mill and lathe operations; English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.</i> <i>Nine hours lecture-laboratory.</i></p>	<p>CAD/CAM Based Computer Numerical Control Programming Using Mastercam 4 1/2 Units</p> <p>Three-axis mill programming; creating part geometry, defining tools and tool paths, and using post-processors to produce word-address format programs.</p>		
<p>MCNC 76B</p> <p><i>(Students may receive credit for only one Manufacturing and CNC 76 course with an A through E designation.)</i> <i>Advisory: Basic understanding of mill and lathe operations; English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263.</i> <i>Nine hours lecture-laboratory.</i></p>	<p>CAD/CAM Based Computer Numerical Control Programming Using Mastercam 4 1/2 Units</p> <p>Three-axis mill programming; creating part geometry, defining tools and tool paths, and using post-processors to produce word-address format programs.</p>		
<p>MCNC 76F</p> <p><i>(Students may receive credit for only one Manufacturing and CNC 76 course with an F through J designation.)</i> <i>Prerequisite: Manufacturing and CNC 76A.</i> <i>Nine hours lecture-laboratory.</i></p>	<p>CAD/CAM Based Computer Numerical Control Programming Using Mastercam 4 1/2 Units</p> <p>Programming procedures using wireframe, splines, and surface modeling. Rough, finish, and high speed machining. Editing, post-processing, verifying programs.</p>		
<p>MCNC 76G</p> <p><i>(Students may receive credit for only one Manufacturing and CNC 76 course with an F through J designation.)</i> <i>Prerequisite: Manufacturing and CNC 76B.</i> <i>Nine hours lecture-laboratory.</i></p>	<p>CAD/CAM Based Computer Numerical Control Programming Using Mastercam 4 1/2 Units</p> <p>Programming procedures using wireframe, splines, and surface modeling. Rough, finish, and high speed machining. Editing, post-processing, verifying programs.</p>		
<p>MCNC 76L</p> <p><i>(Students may receive credit for only one Manufacturing and CNC 76 course with an L through Q designation.)</i> <i>Prerequisite: Manufacturing and CNC 76F.</i> <i>Nine hours lecture-laboratory.</i></p>	<p>CAD/CAM Based Computer Numerical Control Programming Using Mastercam 4 1/2 Units</p> <p>Advanced Mastercam; complex surfacing for milling machines and contouring surfaces for lathes. Tooling, workflow and programming for horizontal machining centers.</p>		
<p>MCNC 77</p> <p><i>Prerequisite: Manufacturing and CNC 71 with a grade of C or better or equivalent.</i> <i>Nine hours lecture-laboratory.</i></p>	<p>Machining Practices Using Conventional Machine Tools, Tool Design, Abrasive Machining 4 1/2 Units</p> <p>Advanced machining practices using conventional machine tools. Introduction to fixture design including location and clamping methods and computation of fits and allowances. Abrasive machining.</p>		
<p>MCNC 200</p>	<p>Open Manufacturing and CNC Technology Laboratory 1/2 Unit</p>		
<p>MCNC 200X</p>	<p>1 Unit</p>		
<p>MCNC 200Y</p>	<p>1 1/2 Units</p>		
<p>MCNC 200Z</p> <p><i>(Formerly Manufacturing and CNC Technologies 100, 100X-Z.)</i> <i>Corequisite: Manufacturing and CNC 200 and 200X-Z students must also enroll in any Manufacturing and CNC Technology course.</i> <i>Three hours laboratory for each unit of credit.</i> <i>(May be repeated as long as the corequisite is satisfied.)</i> <i>Pass-No Pass (P-NP) course.</i></p>	<p>2 Units</p> <p>Use of Manufacturing and CNC Technology labs for those who need/desire more time to complete machining and/or CNC programs, projects and exercises.</p>		