

JOUR 2 Mass Communication and Its Impact On Society 4 Units

(See general education pages for the requirement this course meets.)
Advisory: English Writing 1A or English as a Second Language 5.
 Four hours lecture, one additional hour to be arranged working in the Technical Writing/Journalism and Publications Laboratory and/or the English Writing Laboratory and/or the Writing and Reading Center.
 A survey of the mass media and measurement of its impact on culture and society. Mass media effects on global and American institutions. Theories of mass communications in the context of each medium: books, newspapers, magazines, movies, radio, recordings, television and the Internet. Ethical and legal implications of media and their effects on the individual and society. Influences of the media on gender, ethnic and minority issues.
 (CAN JOUR 4)

JOUR 21A News Writing and Reporting 3 Units

Prerequisite: Ability to keyboard; English Writing 1A or English as a Second Language 5.
 Three hours lecture, one additional hour to be arranged working in the Technical Writing/Journalism and Publications Laboratory and/or the English Writing Laboratory and/or the Writing and Reading Center.
 Instruction and practice in reporting and the fundamentals of news writing, with analysis of typical news stories. Concentration on the language and style of news writing; organization and structure of news stories; the lead and basic story types. Practical writing experience.

JOUR 21B Feature Writing and Reporting 3 Units

Prerequisite: Ability to keyboard; English Writing 1A or English as a Second Language 5.
 Three hours lecture, one additional hour to be arranged working in the Technical Writing/Journalism and Publications Laboratory and/or the English Writing Laboratory and/or the Writing and Reading Center.
 Fundamentals in feature writing for newspapers and magazines with instruction and practice in profile, human interest, consumer and interpretive news features. Practical experience in interviewing, writing special story types and revising. Freelancing a story for publication.

Journalism Production

Students are encouraged to enroll in only one of the 60 series courses per quarter; any deviation must be approved in advance by the instructor. San Jose State University will accept for journalism credit no more than 12 per quarter units in the Journalism 60 series. Any course in the series is open to non-journalism majors. While previous publications experience is desirable, it is not mandatory. See description of individual course for prerequisites.

JOUR 61 Newspaper Staff 3 Units

Prerequisite: Ability to typewrite.
Advisory: Journalism 21A or 21B.
 Nine hours laboratory, one additional hour to be arranged working in the Technical Writing/Journalism and Publications Laboratory and/or the English Writing Laboratory and/or the Writing and Reading Center.
 (May be taken six times, not to exceed 18 units, for credit.)
 Practical experience in covering and reporting news and features as members of the college newspaper staff. Staff includes reporters, editors, photojournalists and graphic artists.

JOUR 62 Newspaper Freelancing 1 Unit

Three hours laboratory, one additional hour to be arranged working in the Technical Writing/Journalism and Publications Laboratory and/or the English Writing Laboratory and/or the Writing and Reading Center.
 (May be taken six times for credit.)
 Practical experience contributing as a freelancer to the college newspaper as a reporter, copy editor, columnist, graphic artist, photographer or other freelance position.

JOUR 63 Newspaper Advertising Staff 1 Unit

Three hours laboratory, one additional hour to be arranged working in the Technical Writing/Journalism and Publications Laboratory and/or the English Writing Laboratory and/or the Writing and Reading Center.
 (May be taken six times for credit.)
 Experience in advertising as it relates to the college newspaper. Combines functions of advertising and business management. Introduction to advertising sales, design, production and billing.

JOUR 66W Special Topics in Journalism 1 Unit
JOUR 66X 2 Units
JOUR 66Y 3 Units
JOUR 66Z 4 Units

One hour lecture for each unit of credit, one additional hour to be arranged working in the Technical Writing/Journalism and Publications Laboratory and/or the English Writing Laboratory and/or the Writing and Reading Center. Complexity of topic determines number of units assigned.
 (Any combination of Journalism 66W, 66X, 66Y and 66Z may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)
Pass-No Pass (P-NP) course.
 Intensive study and analysis of a special topic in Journalism. Subjects vary.

JOUR 70W Special Projects in Journalism 1 Unit
JOUR 70X 2 Units
JOUR 70Y 3 Units
JOUR 70Z 4 Units

One hour lecture for each unit of credit, one additional hour to be arranged working in the Technical Writing/Journalism and Publications Laboratory and/or the English Writing Laboratory and/or the Writing and Reading Center. Complexity of project determines number of units assigned.
 (Any combination of Journalism 70W, 70X, 70Y, and 70Z may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)
Pass-No Pass (P-NP) course.
 Special research, writing or study projects in Journalism as determined in consultation with the department chair.

Korean

KORE 1 Elementary Korean (First Quarter) 5 Units

(Formerly Korean 91.)
 (See general education pages for the requirement this course meets.)
Advisory: English Writing 100A and Reading 201 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Five hours lecture, one hour laboratory.
 Introduction to the Korean historical and cultural background of the language. Intensive oral practice of basic everyday language functions, written practice, including Hangul, to further understand grammatical and syntactical structures. Language laboratory practice to reinforce pronunciation, grammar and syntax.

KORE 2 Elementary Korean (Second Quarter) 5 Units

(Formerly Korean 92.)
 (See general education pages for the requirement this course meets.)
Prerequisite: Korean 1 or one year of high school Korean.
 Five hours lecture, one hour laboratory.
 Further development of material presented in Korean 1. Intensive oral practice broadening the functions presented in Korean 1 and adding new ones. Greater emphasis on student generated discussion. More emphasis on cultural and historical background in the use of language. Written practice to further understanding of the underlying grammatical and syntactical structures. Language laboratory practice to reinforce pronunciation, grammar and syntax.

KORE 3 Elementary Korean (Third Quarter) 5 Units

(Formerly Korean 93.)
 (See general education pages for the requirement this course meets.)
Prerequisite: Korean 2 or two years of high school Korean.
 Five hours lecture, one hour laboratory.
 Further development of material presented in Korean 1 and 2. Continuation of elementary language skills for oral and written communication in targeted language functions, with focus on greater structural accuracy and communicative competence. Understanding of Korean culture through the analysis of literature. Language laboratory practice to reinforce pronunciation, grammar and syntax.

KORE 4 Intermediate Korean (First Quarter) 5 Units

(Formerly Korean 94.)
 (See general education pages for the requirement this course meets.)
Prerequisite: Korean 3 or three years of high school Korean.
 Five hours lecture, one hour laboratory.
 Review of grammar and discussion of grammatical features beyond the elementary level. Development of reading, writing, speaking and listening skills at the first intermediate level. Reading and discussion of texts dealing with Korean literature, arts, history and culture. Language laboratory practice.

KORE 5 Intermediate Korean (Second Quarter) 5 Units
 (Formerly Korean 95.)
 (See general education pages for the requirement this course meets.)
 Prerequisite: Korean 4.
 Five hours lecture, one hour laboratory.
 Review of grammar and discussion of grammatical features beyond the elementary level. Development of reading, writing, speaking and listening skills at the second intermediate level. Reading and discussion of texts dealing with Korean literature, arts, history and culture. Language laboratory practice.

KORE 6 Intermediate Korean (Third Quarter) 5 Units
 (Formerly Korean 96.)
 (See general education pages for the requirement this course meets.)
 Prerequisite: Korean 5.
 Five hours lecture, one hour laboratory.
 Continuation of Korean 5. Review of grammar and discussion of grammatical features beyond the elementary level. Development of reading, writing, speaking and listening skills at the third intermediate level. Reading and discussion of texts dealing with Korean literature, arts, history and culture. Language laboratory practice.

Language Arts

LART 100 Integrated Reading and Writing 10 Units
 Prerequisite: Qualifying score on Reading and Writing placement test or successful completion of Language Arts 200, or Reading 201, and/or English Writing 200.
 Corequisite: Language Arts 100 students must also enroll in Language Arts 170 or English Writing 160 and Reading 101 according to schedule.
 Ten hours lecture.
 Pass-No Pass (P-NP) course.
 Integration of reading and writing skills necessary for success in college level courses. Emphasis on analysis and criticism of assigned readings and written responses to critical questions about those readings.

LART 170 Guided Practice in Developmental Reading and Writing 1 Unit
 Prerequisite: Qualifying score on the English placement test or successful completion of English Writing 200/150 and Reading 201/202.
 Corequisite: Language Arts 170 students must also enroll in English Writing 100B and/or Reading 100, or Language Arts 100.
 Two hours lecture-laboratory.
 Pass-No Pass (P-NP) course.
 Development and integration of reading and writing skills necessary for college level reading and essay writing. Includes critical thinking, inferential reading comprehension, and analytical response essay writing.

LART 200 Developing Reading and Writing Connections 10 Units
 Credit course - Does not apply to De Anza Associate degree.
 (Not open to students who have completed Reading 201 and/or English Writing 200.) Prerequisite: Qualifying score on the Reading and Writing placement test.
 Ten hours lecture.
 (May be taken twice for credit.)
 Pass-No Pass (P-NP) course.
 Development of reading and writing abilities to the level necessary to be successful in Reading 100 and English Writing 100B. Comprehension of assigned readings. Writing focused on a central idea, developed with specific examples, organized according to a reasonably clear progression of ideas and largely free of major grammatical, syntactic, usage and diction errors.

Learning Assistance

LRNA 77 Special Projects in Learning Assistance 1 Unit
LRNA 77X 2 Units
 (Formerly Learning Assistance 99 and 99W.)
 Credit course - Does not apply to De Anza Associate degree.
 Two hours lecture-laboratory for each unit of credit.
 (Any combination of Learning Assistance 77 and 77X may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)
 Pass-No Pass (P-NP) course.
 Special reading, writing, or study projects in Learning Assistance as determined in consultation with the instructor. Student must concurrently work as a tutor (for pay or volunteer) at the De Anza College Tutorial Center, or similar organization, as determined by the instructor.

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 201 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
 Two hours lecture-laboratory.
 This course will teach skills needed to find, evaluate, and use information found on the Internet and other electronic databases.

LCEN 51 Business Resources on the World Wide Web 1 Unit
 Advisory: English Writing 200 and Reading 201 (or Language Arts 200), or English as a Second Language 261, 262 and 263; experience with Macintosh or Windows operating systems.
 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 201 (or Language Arts 200), or English as a Second Language 261, 262 and 263; experience with Macintosh or Windows operating systems.
 Two hours lecture-laboratory.
 Go beyond general web searching to find the best information available on your topic. Learn to refine and focus your search and use specialized search tools available on the World Wide Web.

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 201 (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 201 (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 201 (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.

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.

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 201 (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 201 (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 63A Automotive Mechanisms 3 Units

Prerequisite: Approved Automotive Technology Course Sequence Contract.

Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173 ; Mathematics 101 or 112.

(Also listed as Automotive Technology 53A. Student may enroll in either course, but not both, for credit.)

Six hours lecture-laboratory per week. Seventy two hours lecture-laboratory per quarter.

The application of physical principles to the operation of mechanical, hydraulic, and hydromechanical systems, using an applied physics technique.

MCNC 63B Automotive Electromechanical Systems 2 Units
Prerequisite: Approved Automotive Technology Course Sequence Contract.
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173 ; Mathematics 101 or 112.
(Also listed as Manufacturing and CNC 63B. Student may enroll in either course, but not both, for credit.)
Four hours lecture-laboratory per week. Forty-eight hours lecture-laboratory per quarter.

(Any combination of Automotive Technology 53B and Manufacturing and CNC 63B may be taken three times for credit.)
 Electrical theories, testing and measuring procedures, circuit construction and schematic interpretation. Application of the principles of magnetism. Fundamentals of operation of semiconductors used as electronic devices and controls.

MCNC 64 Manufacturing Materials and Processes 4 Units
(Formerly Manufacturing and Design Technology 64.)
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173 ; Manufacturing and CNC 62A or Mathematics 101 or 112.
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 201 (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.

MCNC 72 Applied Geometric Inspection Dimensioning and Tolerancing (ANSI Y14.5m); Coordinate Measuring Machines (CMM) 3 Units
(Formerly Manufacturing and Design Technology 72.)

Advisory: English Writing 200 and Reading 201 (or Language Arts 200), or English as a Second Language 261, 262 and 263; experience in blueprint reading.
Six hours lecture-laboratory.

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-aide 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.

MCNC 74A Survey of Computer Drawings 2 Units
(Formerly Manufacturing and Design Technology 54E.)

Advisory: English Writing 200 and Reading 201 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory.

(May be taken twice for credit if software is different each time.)
 Principles and applications of computer drawings using industry standard software. Emphasis on 3-D and articulated drawings.

MCNC 74B Survey of Computer Aided Design 2 Units
(Formerly Manufacturing and Design Technology 54F.)

Advisory: English Writing 200 and Reading 201 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 200 or 210 or equivalent.
Four hours lecture-laboratory.

Principles and applications of computer aided design (CAD) using industry standard software. Emphasis on 2D drawings.

MCNC 74D Survey of Industrial Mechanisms 2 Units

Prerequisite: Manufacturing and CNC 62B and 74B with a grade of C or better, or equivalent.

Advisory: English Writing 200 and Reading 201 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Four hours lecture-laboratory.

The application of basic physical principles to the operation and design of mechanical and hydraulic mechanisms.

MCNC 75A Introduction to Computer-Aided Numerical Control (CNC) Programming and Operation; Mills 4 1/2 Units

Advisory: Manufacturing and CNC 71 or experience in machining processes; English Writing 200 and Reading 201 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Nine hours lecture-laboratory.

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.

MCNC 75B Computer-Aided Numerical Control (CNC) Programming and Operation; Lathes, Advanced Mills 4 1/2 Units

Prerequisite: Manufacturing and CNC 75A with a grade of C or better or equivalent.
Nine hours lecture-laboratory.

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.

MCNC 76A CAD/CAM Based Computer Numerical Control Programming Using Mastercam 4 1/2 Units

(Students may receive credit for one Manufacturing and CNC 76 course with an A through E designation.)

Advisory: Basic understanding of mill and lathe operations; English Writing 200 and Reading 201 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Nine hours lecture-laboratory.

Three-axis mill programming; creating part geometry, defining tools and tool paths, and using post-processors to produce word-address format programs.

MCNC 76B CAD/CAM Based Computer Numerical Control Programming Using Mastercam 4 1/2 Units

(Students may receive credit for one Manufacturing and CNC 76 course with an A through E designation.)

Advisory: Basic understanding of mill and lathe operations; English Writing 200 and Reading 201 (or Language Arts 200), or English as a Second Language 261, 262 and 263.
Nine hours lecture-laboratory.

Three-axis mill programming; creating part geometry, defining tools and tool paths, and using post-processors to produce word-address format programs.

MCNC 76F Advanced CAD/CAM Based Computer Numerical Control Programming Using Mastercam 4 1/2 Units

(Students may receive credit for one Manufacturing and CNC 76 course with an F through J designation.) Prerequisite: Manufacturing and CNC 76A.
Nine hours lecture-laboratory.

Advanced programming procedures using wireframe, surface and solid models. Editing, post-processing, verifying and running programs on CNC machines.

MCNC 76G Advanced CAD/CAM Based Computer Numerical Control Programming Using Mastercam 4 1/2 Units

(Students may receive credit for one Manufacturing and CNC 76 course with an F through J designation.) Prerequisite: Manufacturing and CNC 76B.
Nine hours lecture-laboratory.

Advanced programming procedures using wireframe, surface and solid models. Editing, post-processing, verifying and running programs on CNC machines.

MCNC 77 Machining Practices Using Conventional Machine Tools, Tool Design, Abrasive Machining 4 1/2 Units

Prerequisite: Manufacturing and CNC 71 with a grade of C or better or equivalent.
Nine hours lecture-laboratory.

Advanced machining practices using conventional machine tools. Introduction to fixture design including location and clamping methods and computation of fits and allowances. Abrasive machining.



**MCNC 200 Open Manufacturing and
CNC Technology Laboratory**

MCNC 200X 1/2 Unit
MCNC 200Y 1 Unit
MCNC 200Z 1 1/2 Units
 2 Units
 (Formerly Manufacturing and CNC Technologies 100, 100X-Z.)
Corequisite: Manufacturing and CNC 200 and 200X-Z students must also enroll in any Manufacturing and CNC Technology course.
Three hours laboratory for each unit of credit.
(May be repeated as long as the corequisite is satisfied.)
Pass-No Pass (P-NP) course.
 Use of Manufacturing and CNC Technology labs for those who need/desire more time to complete machining and/or CNC programs, projects and exercises.

Mathematics

MATH 1A Calculus 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 49B (with a grade of C or better), or appropriate score on Calculus Placement Test within the past calendar year.
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.
Five hours lecture.
 Fundamentals of differential calculus.
 (MATH 1A + 1B = CAN MATH 18) (MATH 1A + 1B + 1C = CAN MATH SEQ B) (MATH 1A + 1B + 1C + 1D = CAN MATH SEQ C)

MATH 1B Calculus 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 49B and Mathematics 1A, both, with a grade of C or better; or appropriate score on Calculus Placement Test within the past calendar year.
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.
Five hours lecture.
 Fundamentals of integral calculus.
 (MATH 1A + 1B = CAN MATH 18) (MATH 1A + 1B + 1C = CAN MATH SEQ B) (MATH 1A + 1B + 1C + 1D = CAN MATH SEQ C)

MATH 1C Calculus 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 1B with a grade of C or better; or equivalent.
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.
Five hours lecture.
 Infinite series, lines and surfaces in three dimensions, vectors in two and three dimensions, parametric equations of curves. Derivatives and integrals of vector functions
 (CAN MATH 20) (MATH 1A + 1B + 1C = CAN MATH SEQ B) (MATH 1A + 1B + 1C + 1D = CAN MATH SEQ C)

MATH 1D Calculus 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 1C with a grade of C or better; or equivalent.
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.
Five hours lecture.
 Partial derivatives, Multiple Integrals, Vector Calculus.
 (CAN MATH 22) (MATH 1A + 1B + 1C + 1D = CAN MATH SEQ C)

MATH 2A Differential Equations 5 Units

(Formerly Mathematics 2C.)
(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 1D with a grade of C or better.
Five hours lecture.
 Ordinary differential equations and selected applications.
 (CAN MATH 24)

MATH 2B Linear Algebra 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 1D with a grade of C or better.
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.
Five hours lecture.
 Linear algebra and selected topics of mathematical analysis.
 (CAN MATH 26)

MATH 10 Elementary Statistics and Probability 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 105 or 114 with a grade of C or better; or qualifying score on Intermediate Algebra Placement Test within the past calendar year.
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.
Five hours lecture.
 Introduction to data analysis making use of graphical and numerical techniques to study patterns and departures from patterns. The student studies randomness with an emphasis on understanding variation, collects information in the face of uncertainty, checks distributional assumptions, tests hypotheses, uses probability as a tool for anticipating what the distribution of data may look like under a set of assumptions, and uses appropriate statistical models to draw conclusions from data. The course introduces the student to applications in engineering, business, economics, medicine, education, the sciences, and other related fields. The use of technology (computers or graphing calculators) will be required in certain applications.
 (CAN STAT 2)

MATH 11 Finite Mathematics 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Qualifying score on the Math Placement Test within the past calendar year; or Mathematics 105 or 114 with a grade of C or better.
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.
Five hours lecture or; Four hours lecture and three hours laboratory or; Four hours lecture and two hours lecture-laboratory.
 Application of linear equations, sets, matrices, linear programming, mathematics of finance and probability to real-life problems. Emphasis on the understanding of the modeling process, and how mathematics is used in real-world applications.
 (CAN MATH 12)

MATH 12 Introductory Calculus for Business and Social Science 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 11.
Five hours lecture.
 Introduction to limits, differentiation, and integration of single variable functions. Differentiation of multivariate functions. Applications in business, economics, and social science.
 (CAN MATH 34)

MATH 22 Discrete Mathematics 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 49A with a grade of C or better; or equivalent.
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.
Five hours lecture.
 Elements of discrete mathematics with applications to computer science. Topics include methods of proof, mathematical induction, logic, sets, relations, graphs, combinatorics, and Boolean algebra.
 (CAN CSCI 26)

MATH 23 Engineering Statistics 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 1C with a grade of C or better.
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.
Five hours lecture.
 The collection and analysis of information making use of graphical and numerical techniques; the student studies discrete, continuous, cumulative, and joint probability distribution functions and makes use of statistical inference, experimental design, and equation fitting, when appropriate. The course exposes the student to a variety of engineering applications. Certain applications require the use of technology (computers or graphing calculators). Engineering Statistics is a relatively new area of statistics developed in approximately the last 30 years.

MATH 44 Introduction to Contemporary Mathematics 5 Units

(See general education pages for the requirement this course meets.)
Prerequisite: Qualifying score on the Intermediate Algebra Placement Test within the past calendar year; or Mathematics 105 or 114 with a grade of C or better.
Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.
Five hours lecture.
 A survey of selected topics from contemporary mathematics, including problem solving techniques and connections between mathematics and culture. Includes a selection of introductory topics from symmetry; graph theory; chaos and fractals; topology; number theory; geometry; combinatorics and counting; the mathematics of social choice; data analysis, probability and statistics.

MATH 46 Mathematics for Elementary Education 5 Units (Formerly Mathematics 63.) (See general education pages for the requirement this course meets.) <i>Prerequisite: Mathematics 105 or 114 with a grade of C or better.</i> <i>Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.</i> (Also listed as Education 46. Student may enroll in either department, but not both, for credit.) Five hours lecture.	MATH 112 College Math Preparation Level 2: Beginning Algebra 5 Units <i>Prerequisite: Qualifying score on the Math Placement Test within the last calendar year; or Mathematics 210 with a grade of C or better.</i> <i>Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.</i> Five hours lecture or; Four hours lecture and three hours lab or; Four hours lecture and two hours lecture-laboratory. Application of linear functions, quadratic functions and linear systems to problems. Emphasis on the development of models or real world applications and interpretation of their characteristics.
MATH 49A Pre-Calculus Algebra 5 Units (See general education pages for the requirement this course meets.) <i>Prerequisite: Mathematics 51 (with a grade of C or better) or satisfactory score on Calculus Readiness test within the last calendar year.</i> <i>Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.</i> Five hours lecture. Polynomial, rational, exponential and logarithmic functions, graphs, solving equations; conic sections.	MATH 114 College Math Preparation Level 3: Intermediate Algebra 5 Units (Student may not receive credit for both Mathematics 105 and 114.) <i>Prerequisite: Qualifying score on the Math Placement Test within the last calendar year; or Mathematics 112 with a grade of C or better.</i> <i>Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.</i> Five hours lecture; or four hours lecture and three hours laboratory; or four hours lecture and two hours lecture-laboratory. Application of exponential and logarithmic functions, rational functions, and sequences and series to problems. Emphasis on the development of models of real world applications and interpretation of their characteristics.
MATH 49B Pre-Calculus Algebra 5 Units (See general education pages for the requirement this course meets.) <i>Prerequisite: Mathematics 49A (with a grade of C or better) or satisfactory score on the Calculus Readiness test within the last calendar year.</i> <i>Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.</i> Five hours lecture. Systems of equations and inequalities, vectors, lines and planes, sequences and series, polar coordinates.	MATH 210 College Math Preparation Level 1: Pre-Algebra 5 Units (Formerly Mathematics 110.) <i>Credit course - Does not apply to De Anza Associate degree.</i> <i>Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.</i> Five hours lecture or; four hours lecture and three hours laboratory or; four hours lecture, two hours lecture-laboratory. Use of basic arithmetic in application problems, estimation, the real number system, variables and linear equations, graphs of linear equations and the Cartesian coordinate system, the concept of function.
MATH 51 Trigonometry 5 Units (See general education pages for the requirement this course meets.) <i>Prerequisite: Qualifying score on the Intermediate Algebra Placement Test within the past calendar year; or a grade of C or better in Mathematics 105 or 114.</i> <i>Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.</i> Five hours lecture. The theory of trigonometric functions and their applications. (CAN MATH 8)	Meteorology MET 10 Weather Processes 4 Units (See general education pages for the requirement this course meets.) <i>Prerequisite: Mathematics 101 or 112.</i> <i>Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.</i> Four hours lecture. Introduction to the principles of the science of meteorology including: history of the science; origin, evolution and structure of the atmosphere; major atmospheric variables that determine weather; global and local wind circulation; air masses and frontal systems; birth and development of extratropical and tropical cyclones and associated severe weather phenomena; weather map analysis and interpretation; objective techniques used by meteorologists to forecast weather.
MATH 77 Special Projects in Mathematics 1 Unit MATH 77X 2 Units MATH 77Y 3 Units (Formerly Mathematics 40, 40X, and 40Y.) Three hours laboratory for each unit of credit. (Any combination of Mathematics 77, 77X, and 77Y may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.) Pass-No Pass (P-NP) course. Individual special reading, writing, or study projects in mathematics as determined in consultation with the instructor.	MET 10L Meteorology Laboratory 1 Unit (Formerly Meteorology 50L.) (See general education pages for the requirement this course meets.) <i>Prerequisite: Mathematics 101 or 112.</i> <i>Corequisite or Prerequisite: Meteorology 50L students must also enroll in, or have already completed, Meteorology 10.</i> <i>Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.</i> Three hours laboratory. Introductory weather lab in which students work with observational data, graphics products, charts and instruments used by synoptic meteorologists to forecast weather. Lab sessions will include current weather products downloaded from the American Meteorological Society's "Online Weather Studies" homepage which has been specifically designed for this course and from De Anza College's automated rooftop weather station. Students will practice the analysis and decision-making skills employed by meteorologists to diagnose air patterns, understand air motions and predict future atmospheric conditions.
MATH 104 Applied Algebra Plus 7 Units (Student may not receive credit for Mathematics 101 and 104.) <i>Prerequisite: Qualifying score on the Math Placement Test within the last calendar year; or Mathematics 200 or 210.</i> <i>Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 172 and 173.</i> Seven hours lecture; or five hours lecture, four hours lecture-laboratory. Fundamental algebraic operations on real numbers and real variables with emphasis on linear functions and equations, polynomials, rational expressions and equations, plane geometry, elementary trigonometry and their applications as they relate to applied technologies.	MET 77 Special Projects in Meteorology 1 Unit MET 77X 2 Units MET 77Y 3 Units <i>Prerequisite: Consent of instructor and division dean.</i> Three hours laboratory for each unit of credit. (Any combination of Meteorology 77, 77X, and 77Y may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.) Pass-No Pass (P-NP) course. Individual special reading, writing, or study projects in meteorology as determined in consultation with the instructor.