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Japanese

JAPN 1 Elementary Japanese (First Quarter) 5 Units

(Formerly Japanese 91.)

(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.

Introduction to the language and the culture of Japan. Emphasis will be on language as the primary expression of culture. Practice of four basic skills of language (speaking, listening, reading and writing) within a cultural framework. Japanese will be the major language of instruction. Oral practice based on understanding of the language structure. Master one of the Japanese syllabic writing systems, hiragana. Begin to understand a second writing system, katakana. Language laboratory practice to reinforce pronunciation, grammar, syntax, and listening skills.

JAPN 2 Elementary Japanese (Second Quarter) 5 Units

(Formerly Japanese 92.)

(See general education pages for the requirement this course meets.)

Prerequisite: Japanese 1 or equivalent.

Five hours lecture.

Further development of material presented in Japanese 1. Continuation of introduction to the language and the culture of Japan. Emphasis will be on language as the primary expression of culture. Practice of four basic skills of language (speaking, listening, reading and writing) within a cultural framework. Oral practice based on understanding of the language structure. Continuation of the two Japanese syllabic writing systems, hiragana, and katakana. Start to recognize the third writing system, kanji--Sino-Japanese characters. Language laboratory practice to reinforce pronunciation, grammar, syntax, and listening skills.

JAPN 3 Elementary Japanese (Third Quarter) 5 Units

(Formerly Japanese 93.)

(See general education pages for the requirement this course meets.)

Prerequisite: Japanese 2.

Five hours lecture.

Further development of material presented in Japanese 1 and 2. Continuation of introduction to the language and culture of Japan. Emphasis will be on language as the primary expression of culture. Practice of four basic skills of language (speaking, listening, reading and writing) within a cultural framework. Oral practice based on understanding of the language structure. Increase in learning of the kanji writing system. Language laboratory practice to reinforce pronunciation, grammar, syntax, and listening skills.

JAPN 4 Intermediate Japanese (First Quarter) 5 Units

(Formerly Japanese 94.)

(See general education pages for the requirement this course meets.)

Prerequisite: Japanese 3.

Five hours lecture.

Further development of material presented in Elementary Japanese. Continuation of studying the language and culture of Japan. Emphasis will be on language as the primary expression of culture. Practice of four skills of language (speaking, listening, reading and writing) within a cultural framework. Oral practice based on understanding of the language structure. Increase in learning of the kanji writing system. Language laboratory practice to reinforce pronunciation, grammar, syntax, and listening skills.

JAPN 5 Intermediate Japanese (Second Quarter) 5 Units

(Formerly Japanese 95.)

(See general education pages for the requirement this course meets.)

Prerequisite: Japanese 4.

Five hours lecture.

Further development of material presented in Japanese 4. Continuation of studying the language and culture of Japan. Emphasis will be on language as the primary expression of culture. Practice of four skills of language (speaking, listening, reading and writing) within a cultural framework. Oral practice based on understanding of the language structure. Increased use of kanji in the writing system. Increase in learning idiomatic expressions that are uniquely Japanese. Language laboratory practice to reinforce pronunciation, grammar, syntax, and listening skills.

JAPN 6 Intermediate Japanese (Third Quarter) 5 Units

(Formerly Japanese 96.)

(See general education pages for the requirement this course meets.)

Prerequisite: Japanese 5.

Five hours lecture.

Further development of material presented in Japanese 5. Continuation of studying the language and culture of Japan. Emphasis will be on language as the primary expression of culture. Practice of four skills of language (speaking, listening, reading and writing) within a cultural framework. Oral practice based on understanding of the language structure. Increased use of kanji in the writing system. Increase in learning idiomatic expressions that are uniquely Japanese. Language laboratory practice to reinforce pronunciation, grammar, syntax, and listening skills.

JAPN 60A Japanese - Introductory Conversation (First Quarter) 3 Units

(Formerly Japanese 90A.)

Three hours lecture.

A practical course designed for students with no previous background of Japanese language. The primary focus of this course is on the development of conversational skills. Lesson 1 through Lesson 10 will be covered. One of the three writing systems, Hiragana, is introduced.

JAPN 60B Japanese - Introductory Conversation (Second Quarter) 3 Units

(Formerly Japanese 90B.)

Prerequisite: Japanese 60A.

Three hours lecture.

The next course in the introductory Japanese sequence following Japanese 60A. The primary focus of this course is on the development of conversational skills. Aspects of business life and practical, daily occurrences are dealt with. Lesson 11 through Lesson 20 will be covered. The second writing system, Katakana, is introduced.

JAPN 60C Japanese - Introductory Conversation (Third Quarter) 3 Units

(Formerly Japanese 90C.)

Prerequisite: Japanese 60B.

Three hours lecture.

The next course in the introductory Japanese sequence following Japanese 60B. The primary focus of this course is on the development of conversational skills. Aspects of business life and practical, daily occurrences are dealt with. Lesson 21 through Lesson 30 will be covered.

JAPN 61A Japanese - Intermediate Conversation (First Quarter) 3 Units

(Formerly Japanese 50A.)

Prerequisite: Japanese 60C.

Three hours lecture.

The next course in the sequence following Japanese 60C. Designed for students who desire to learn natural spoken Japanese in a limited amount of time. Students use the language through speaking, listening, reading, and writing at the intermediate level. Aspects of business life and practical daily occurrences are dealt within this course. Third writing system Kanji is introduced.

JAPN 61B Japanese - Intermediate Conversation (Second Quarter) 3 Units

(Formerly Japanese 50B.)

Prerequisite: Japanese 61A.

Three hours lecture.

The next course in the sequence following Japanese 61A. Designed for students who desire to learn natural spoken Japanese in a limited amount of time. Students use the language through speaking, listening, reading, and writing at the intermediate level. Aspects of business life and practical daily occurrences are dealt within this course. More Kanji characters are introduced.

JAPN 61C Japanese - Intermediate Conversation (Third Quarter) 3 Units

(Formerly Japanese 50C.)

Prerequisite: Japanese 61B.

Three hours lecture.

The next course in the sequence following Japanese 61B. Designed for students who desire to learn natural spoken Japanese in a limited amount of time. Students use the language through speaking, listening, reading, and writing at the intermediate level. Aspects of business life and practical daily occurrences are dealt within this course. More Kanji characters are introduced.

Journalism

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.

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.

JOUR 21A News Writing and Reporting 3 Units

Prerequisite: English Writing 1A or English as a Second Language 5.

Three hours lecture.

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 the basic story types. Practical writing experience.

JOUR 21B Feature Writing and Reporting 3 Units

Prerequisite: English Writing 1A or English as a Second Language 5.

Three hours lecture.

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 descriptions of individual courses for prerequisites.

JOUR 61 Newspaper and Student Media Staff 3 Units

Advisory: Journalism 21A or 21B.

Nine hours laboratory.

(May be taken up to six times for credit.)

Practical experience in covering and reporting news and features as members of the college newspaper, magazine or media staff. Staff includes reporters, editors, photojournalists, graphic artists and media producers.

JOUR 62 Newspaper Freelancing 1 Unit

Three hours laboratory.

(may be taken up to 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.

(May be taken up to 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 65W Literary Magazine 1 Unit
JOUR 65X 2 Units**

Advisory: English Writing 1A or English as a Second Language 5.

(Also listed as English Writing 65 and 65X. Student may enroll in either department, but not both, for credit.)

Two hours lecture-laboratory for the one-unit course; two hours lecture-laboratory and three hours laboratory for the two unit course.

(Any combination of English Writing 65, 65X and Journalism 65W, 65X may be taken up to six times for credit. Submissions vary each quarter, so content is different. Students build upon previous experience and develop higher-level skills.)

Pass-No Pass (P-NP) course.

Collaborative evaluation and selection of fiction, poetry, photography, drawings, and other literary and artistic work for literary magazine. Magazine design and production. (Additional editorial, production, management, or marketing work for English Writing 65X and Journalism 65X.)

JOUR 77W Special Projects in Journalism 1 Unit**JOUR 77X 2 Units****JOUR 77Y 3 Units****JOUR 77Z 4 Units**

(Formerly Journalism 70W, 70X, 70Y and 70Z respectively.)

One hour lecture for each unit of credit.

(Any combination of Journalism 77W, 77X, 77Y and 77Z may be taken up to six times, not to exceed 18 units, as long as the projects are different each time.)

Special research, writing or study projects in Journalism as determined in consultation with the department chair. (Complexity of project determines number of units assigned.)

JOUR 78W Special Topics in Journalism 1 Unit**JOUR 78X 2 Units****JOUR 78Y 3 Units****JOUR 78Z 4 Units**

(Formerly Journalism 66W, 66X, 66Y and 66Z respectively.)

One hour lecture for each unit of credit.

(Any combination of Journalism 78W, 78X, 78Y and 78Z may be taken up to six times, not to exceed 18 units, as long as the topics are different each time.)

Intensive study and analysis of a special topic in Journalism. Subjects vary. (Complexity of topic determines number of units assigned.)

Korean**KORE 1 Elementary Korean (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.

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

(See general education pages for the requirement this course meets.)

Prerequisite: Korean 1 or one year of high school Korean.

Five hours lecture.

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

(See general education pages for the requirement this course meets.)

Prerequisite: Korean 2 or two years of high school Korean.

Five hours lecture.

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

(See general education pages for the requirement this course meets.)

Prerequisite: Korean 3 or three years of high school Korean.

Five hours lecture.

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

(See general education pages for the requirement this course meets.)

Prerequisite: Korean 4.

Five hours lecture.

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

(See general education pages for the requirement this course meets.)

Prerequisite: Korean 5.

Five hours lecture.

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 80 Community Based Learning in Language Arts 1/2 Unit****LART 80W 1 Unit****LART 80X 2 Units****LART 80Y 3 Units****LART 80Z 4 Units**

Three hours laboratory for each unit of credit.

(Any combination of Language Arts 80, 80W, 80X, 80Y and 80Z may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)

Practical work with a community, business or civic institution and reflection on that activity.

De Anza College is
a smoke-free campus.



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 200 and/or English Writing 200.)
Prerequisite: Qualifying score on the Reading and Writing Placement Tests. Ten hours lecture.
(May be taken two times for credit.)
Pass-No Pass (P-NP) course.
 Development of reading and writing abilities to the level necessary to be successful in Reading 211 and English Writing 211. 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.

LART 201 Fundamentals of Reading and Writing 1 Unit

Credit course - Does not apply to De Anza Associate degree.
Corequisite: Language Arts 201 students must also enroll in Language Arts 200.
Two hours lecture-laboratory.
Pass-No Pass (P-NP) course.
 Series of integrated reading and writing workshops reinforcing skills and strategies taught in Language Arts 200.

LART 211 Integrated Reading and Writing 10 Units

(Formerly Language Arts 100.)
Credit course - Does not apply to De Anza Associate degree.
Prerequisite: Qualifying score on the Reading and Writing Placement Tests; or successful completion of Language Arts 200, or Reading 200, and/or English Writing 200.
Corequisite: Language Arts 211 students must also enroll in Language Arts 212 or English Writing 212 and Reading 212 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 212 Guided Practice in Developmental Reading and Writing 1 Unit

(Formerly Language Arts 170.)
Credit course - Does not apply to De Anza Associate degree.
Prerequisite: Qualifying score on the English Placement Test; or successful completion of English Writing 200 and 201, and Reading 200 and 202.
Corequisite: Language Arts 212 students must also enroll in English Writing 211 and/or Reading 211, or Language Arts 211.
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.

Learning Assistance

LRNA 77 Special Projects in Learning Assistance 1 Unit
LRNA 77X 2 Units

(Formerly Learning Assistance 99 and 99W respectively.)
Prerequisite: Consent of instructor and division dean.
Two hours lecture-laboratory for each unit of credit.
(Any combination of Learning Assistance 77 and 77X may be taken up to six times as long as the 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 instructor.

LRNA 95 Introduction to Peer Tutoring in Math and Science 2 Units

Prerequisite: Must be selected to work as a De Anza tutor. (Also listed as Physical Sciences, Math, and Engineering 95. Student may enroll in either department, but not both, for credit.)
Two hours lecture.
Pass-No Pass (P-NP) course.
 Content-specific strategies and communication skills to help peer tutors of math and science conduct productive, effective, and fun tutoring sessions. Experience applying instructional and learning theory and tutoring techniques to math and science content. Strategies for working with students from diverse backgrounds and with various learning styles. Self-reflection and peer feedback on actual tutoring sessions. Required of all De Anza group and individual math and science tutors during their first quarter of tutoring.

LRNA 96 Introduction to Peer Tutoring in Groups 2 Units

Prerequisite: Must be hired as a De Anza tutor.
Advisory: English Writing 1A or English as a Second Language 5. (Also listed as Speech 96. Student may enroll in either department, but not both, for credit.)
Two hours lecture.
Pass-No Pass (P-NP) course.
 Introduction to the principles and practices of group tutoring. Development of effective communication and leadership skills to facilitate collaborative, dynamic and productive learning groups in a multicultural environment.

LRNA 97 Introduction to Peer Tutoring in Writing 3 Units

Prerequisite: English Writing 1A or English as a Second Language 5; must be hired to work as a De Anza tutor. (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 Introduction to Tutor Training for Individual General Subject Tutors 2 Units

Credit course - Does not apply to De Anza Associate degree.
Advisory: Must be selected to work as a De Anza tutor.
Two hours lecture.
Pass-No Pass (P-NP) course.
 Required of all De Anza individual general subject tutors during their first quarter of tutoring. Strategies and communication 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 200 Supervised Tutoring in General Subjects 0 Units

(Formerly Learning Assistance 100.)
Non-credit course - Does not apply to De Anza Associate degree.
Prerequisite: Student must be referred by counselor or instructor on the basis of an identified learning need.

(No limit on repeatability for 0 unit courses.)
 Optional learning assistance to strengthen students' learning skills and reinforce mastery of concepts taught in the appropriate parent course or courses in general subject areas. Learning assistance is provided in a designated De Anza center by approved De Anza tutors who are trained in tutoring for specific content areas.

LRNA 201 Supervised Tutoring in Language Arts 0 Units

(Formerly Learning Assistance 100.)
Non-credit course - Does not apply to De Anza Associate degree.
Prerequisite: Student must be referred by counselor or instructor on the basis of an identified learning need.

(No limit on repeatability for 0 unit courses.)
 Optional learning assistance to strengthen students' learning skills and reinforce mastery of concepts in the appropriate parent courses in language arts. Learning assistance is provided in a designated De Anza center by approved tutors who are trained in tutoring for specific content areas.

LRNA 202 Supervised Tutoring in Math and Sciences 0 Units

(Formerly Learning Assistance 100.)
Non-credit course - Does not apply to De Anza Associate degree.
Prerequisite: Student must be referred by counselor or instructor on the basis of an identified learning need.
(No limit on repeatability for 0 unit courses.)
 Optional learning assistance to strengthen students' learning skills and reinforce mastery of concepts taught in the appropriate parent course or courses in math and sciences. Learning assistance is provided in a designated De Anza center by approved De Anza tutors who are trained in tutoring for specific content areas.

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.

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.

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.

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

(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.

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

(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.

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

(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.

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 60A Mandarin - Introductory Conversation (First Quarter) 3 Units

(Formerly Mandarin 90A.)

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 60B Mandarin - Introductory Conversation (Second Quarter) 3 Units

(Formerly Mandarin 90B.)

Prerequisite: Mandarin 60A.

Three hours lecture.

The next course in the introductory conversation Mandarin course sequence, following Mandarin 60A. Continues the introduction to the language and cultures of Mandarin-speaking countries and communities. The vocabulary and grammatical structures mastered in Mandarin 60A 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 60C Mandarin - Introductory Conversation (Third Quarter) 3 Units

(Formerly Mandarin 90C.)

Prerequisite: Mandarin 60B.

Three hours lecture.

The next course in the introductory conversation Mandarin sequence, following Mandarin 60B. Continues the introduction to the language and cultures of Mandarin-speaking countries and communities. The vocabulary and grammatical structures mastered in Mandarin 60B will be consolidated and further developed, in conjunction with elements of Chinese culture. Elements of Chinese for business are introduced. Mandarin 60C is focused on speaking and comprehension proficiency.

MAND 61A Mandarin - Intermediate Conversation (First Quarter) 3 Units
(Formerly Mandarin 50A.)
Prerequisite: Mandarin 60C or equivalent.
Three hours lecture.

The first course in the intermediate conversation Mandarin course sequence, following Mandarin 60C. Continues the introduction to the language and cultures of Mandarin-speaking countries and communities. The vocabulary and grammatical structures mastered in Mandarin 60C will be consolidated and further developed, in conjunction with elements of Chinese culture. Elements of Chinese for business are further introduced. Mandarin 61A is focused on speaking and comprehension proficiency near native speaker level.

MAND 61B Mandarin - Intermediate Conversation (Second Quarter) 3 Units
(Formerly Mandarin 50B.)
Prerequisite: Mandarin 61A or equivalent.
Three hours lecture.

The next course in the intermediate conversation Mandarin course sequence, following Mandarin 61A. Continues the introduction to the language and cultures of Mandarin-speaking countries and communities. The vocabulary and grammatical structures mastered in Mandarin 61A 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 61B is focused on speaking and comprehension proficiency near native speaker level.

MAND 61C Mandarin - Intermediate Conversation (Third Quarter) 3 Units
(Formerly Mandarin 50C.)
Prerequisite: Mandarin 61B or equivalent.
Three hours lecture.

The advanced level of conversation, following Mandarin 61B. Continues the introduction to the language and cultures of Mandarin-speaking countries and communities. The vocabulary and grammatical structures mastered in Mandarin 61B 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 61C is focused on speaking and comprehension proficiency at native speaker level.

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 and 56Y respectively.)

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 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; keyboarding skills 40 words per 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; Mathematics 212 or equivalent; or Manufacturing and CNC 62A.

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, 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; Mathematics 210 or equivalent.

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 function. Cutter 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 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent; experience in blueprint reading.

Six hours lecture-laboratory.

Interpretation of specifications and inspection procedures related to current ASME Y14.5 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 set-up for measuring form, orientation, and position call outs.

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

(May be taken two times for credit as long as the 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 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent.

Four hours lecture-laboratory.

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

MCNC 74C Introduction to 3D Computer Aided Design 2 Units
Prerequisite: Manufacturing and CNC 74B.

Four hours lecture-laboratory.

Principles and applications of computer aided design (CAD) using industry standard software. Emphasis on three-dimensional architectural 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 200 (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: English Writing 200 and Reading 200 (or Language Arts 200), or English as a Second Language 261, 262 and 263; Mathematics 210 or equivalent; Manufacturing and CNC 71 or experience in machining processes. Nine hours lecture-laboratory.

Introduction to mill tool path programming using G & M code format. CNC systems and components including machine controller functions and operations. Program entry, editing, and back plotting. Calculation for mill cutter compensation. Precision inspection techniques. 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 75C CNC Lathes and Horizontal Machining Centers; Programming and Operation, 4th Rotary Axis, Fixture Design 4 1/2 Units

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

CNC lathe tool path programming using G and 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.

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

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

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; basic understanding of mill and lathe operations. Nine hours lecture-laboratory.

Introduction to Mastercam three axis mill programming. Create part geometry, define tools and tool paths, 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 only one Manufacturing and CNC 76 course with an A through E designation.)

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; basic understanding of mill and lathe operations. Nine hours lecture-laboratory.

Introduction to Mastercam three axis mill programming. Create part geometry, define tools and tool paths, using post-processors to produce word-address format programs.

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

(Students may receive credit for only one Manufacturing and CNC 76 course with an F through J designation.)

Prerequisite: Manufacturing and CNC 76A.

Nine hours lecture-laboratory.

Programming procedures using wireframe, splines, and surface modeling. Rough, finish, and high speed machining. Editing, post-processing, verifying programs.

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

(Students may receive credit for only one Manufacturing and CNC 76 course with an F through J designation.)

Prerequisite: Manufacturing and CNC 76B.

Nine hours lecture-laboratory.

Programming procedures using wireframe, splines, and surface modeling. Rough, finish, and high speed machining. Editing, post-processing, verifying programs.

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

(Students may receive credit for only one Manufacturing and CNC 76 course with an L through Q designation.)

Prerequisite: Manufacturing and CNC 76B.

Nine hours lecture-laboratory.

Advanced Mastercam; complex surfacing for milling machines and contouring surfaces for lathes. Tooling, workflow and programming for horizontal machining centers.

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 1/2 Unit**MCNC 200X 1 Unit
MCNC 200Y 1 1/2 Units
MCNC 200Z 2 Units**

(Formerly Manufacturing and CNC Technologies 100, 100X, 100Y and 100Z respectively.)

Credit course - Does not apply to De Anza Associate degree.

Corequisite: Manufacturing and CNC 200, 200X, 200Y and 200Z students must also enroll in any Manufacturing and CNC Technology course.

Three hours laboratory for each unit of credit.

(May be taken up to six times for credit 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 the Calculus Placement Test within the past calendar year.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Five hours lecture.

Fundamentals of differential calculus.

MATH 1B Calculus 5 Units

(See general education pages for the requirement this course meets.)

Prerequisite: Mathematics 1A and Mathematics 49B, both with a grade of C or better; or appropriate score on the Calculus Placement Test within the past calendar year.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Five hours lecture.

Fundamentals of integral calculus.

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 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

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.

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 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Five hours lecture.

Partial derivatives, Multiple Integrals, Vector Calculus.

MATH 2A Differential Equations 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 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Five hours lecture.

Ordinary differential equations and selected applications.

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 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Five hours lecture.

Linear algebra and selected topics of mathematical analysis.

MATH 10 Elementary Statistics and Probability 5 Units

(See general education pages for the requirement this course meets.)

Prerequisite: Mathematics 114 or equivalent with a grade of C or better; or a qualifying score on the Intermediate Algebra Placement Test within the past calendar year.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

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. Introduces the student to applications in engineering, business, economics, medicine, education, the sciences, and those pertaining to issues of contemporary interest. The use of technology (computers or graphing calculators) will be required in certain applications. Where appropriate, the contributions to the development of statistics by men and women from diverse cultures will be introduced.

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 114 or equivalent with a grade of C or better.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

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.

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.

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 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

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.

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 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

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. 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 114 or equivalent with a grade of C or better.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

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; consumer mathematics and personal financial management.

MATH 46 Mathematics for Elementary Education 5 Units

(See general education pages for the requirement this course meets.)

Prerequisite: Mathematics 114 with a grade of C or better.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

(Also listed as Education 46. Student may enroll in either department, but not both, for credit.)

Five hours lecture.

Designed for prospective elementary and middle school teachers. An introduction to the discipline of mathematics as the use of logical, quantitative, and spatial reasoning in the abstraction, modeling, and problem solving of real-world situations. The main topics in the course include the origins of mathematics, mathematical reasoning and problem solving strategies, theory of sets, integers and integral number theory, rational numbers and proportion, real numbers and decimal notation, and measurement. Throughout the course students will experience the learning of mathematics in a way that models how they can create an active learning environment for their future students.

MATH 49A Pre-Calculus Algebra 5 Units

(See general education pages for the requirement this course meets.)

Prerequisite: Mathematics 51 with a grade of C or better, or satisfactory score on Calculus Readiness Test within the last calendar year.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Five hours lecture.

Polynomial, rational, exponential and logarithmic functions, graphs, solving equations; conic sections.

MATH 49B Pre-Calculus Algebra 5 Units

(See general education pages for the requirement this course meets.)

Prerequisite: Mathematics 49A with a grade of C or better, or satisfactory score on the Calculus Readiness Test within the last calendar year.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Five hours lecture.

Systems of equations and inequalities, vectors, lines and planes, sequences and series, polar coordinates.

MATH 51 Trigonometry 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 114 with a grade of C or better, or equivalent.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Five hours lecture.

The theory of trigonometric functions and their applications.

MATH 77 Special Projects in Mathematics 1 Unit**MATH 77X 2 Units****MATH 77Y 3 Units**

(Formerly Mathematics 40, 40X and 40Y respectively.)

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 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.

MATH 104 Applied Algebra Plus 7 Units
(Students may receive credit for either Mathematics 104 or 212, but not both.)
Prerequisite: Qualifying score on the Math Placement Test within the last calendar year; or Mathematics 210 or equivalent.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
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, plane geometry, elementary trigonometry and their applications as they relate to applied technologies.

MATH 114 College Math Preparation Level 3: Intermediate Algebra 5 Units
Prerequisite: Qualifying score on the Math Placement Test within last calendar year; or Mathematics 212 with a grade of C or better, or equivalent.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Five hours lecture; 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 210 College Math Preparation Level 1: Pre-Algebra 5 Units
(Formerly Mathematics 110.)
Credit course - Does not apply to De Anza Associate degree.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Five hours lecture; or four hours lecture and 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 212 College Math Preparation Level 2: Beginning Algebra 5 Units
(Formerly Mathematics 112.)
Credit course - Does not apply to De Anza Associate degree.
Prerequisite: Qualifying score on the Math Placement Test within last calendar year; or Mathematics 210 with a grade of C or better, or equivalent.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Five hours lecture; 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 of real world applications and interpretation of their characteristics.

MATH 249A Academic Excellence in Pre-calculus 1 Unit
Credit course - Does not apply to De Anza Associate degree.
Corequisite: Mathematics 249A students must also enroll in Mathematics 49A.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Three hours laboratory.
 Critical thinking and skills reinforcement in a pre-calculus setting: cooperative learning/study techniques, concept development, and use of technology.

MATH 249B Academic Excellence in Pre-calculus 1 Unit
Credit course - Does not apply to De Anza Associate degree.
Corequisite: Mathematics 249B students must also enroll in Mathematics 49B.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Three hours laboratory.
 Critical thinking and skills reinforcement in a pre-calculus setting: cooperative learning/study techniques, concept development, and use of technology.

MATH 251 Academic Excellence in Trigonometry 1 Unit
Credit course - Does not apply to De Anza Associate degree.
Corequisite: Mathematics 251 students must also enroll in Mathematics 51.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
Three hours laboratory.
 Critical thinking and skills reinforcement in a trigonometry setting: cooperative learning/study techniques, concept development, and use of technology.

De Anza College is
 a smoke-free campus.



Meteorology

MET 10 Weather Processes 4 Units
(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 210 or equivalent.
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
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 circulations; air masses and frontal systems; birth and development of extra tropical and tropical cyclones and associated severe weather phenomena; weather map analysis and interpretation; objective techniques used by meteorologists to forecast weather.

MET 10L Meteorology Laboratory 1 Unit
(Formerly Meteorology 50L.)
(See general education pages for the requirement this course meets.)
Prerequisite: Mathematics 210 or equivalent; Meteorology 10 (may be taken concurrently).

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.
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 design 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.

MET 77 Special Projects in Meteorology 1 Unit
MET 77X 2 Units
MET 77Y 3 Units

Prerequisite: Consent of instructor and division dean.

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 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.

Military Science

(Army Reserve Officers Training Corps) For information on Army ROTC courses, please see Military Studies in this catalog.

Military Studies

Military Studies includes the following: Military Science (Army Reserve Officer's Training Corps [ROTC]), Aerospace Studies (Air Force ROTC), and Naval Science (Naval ROTC). Army ROTC courses are offered at Santa Clara University. Aerospace Studies are offered at San Jose State University. The Naval/Marine ROTC program is offered at the University of California at Berkeley; however, it does not have a community college component at this time.

NOTE: Lower division ROTC programs are open to all students and there is no military obligation incurred. However, ROTC scholarships and military commissions do have specific qualifications and commitments. While all students are eligible to take ROTC courses, not all students who take ROTC courses will be eligible for either a scholarship or a military commission.

REGISTRATION NOTE: To register from a community college for ROTC courses, please contact Mission College or West Valley College. De Anza College does not currently provide for ROTC registration for De Anza College students. For further information, please contact the Biological and Health Sciences Division 408.864.8773.

Aerospace Studies

(Air Force Reserve Officers Training Corps) The Air Force Reserve Officer Training Program (Air Force ROTC) at San Jose State University offers a high quality educational experience structured for all college students. It gives students the opportunity to learn excellent leadership and management skills while training to become a commissioned officer in the Air Force. Academic instruction includes Air Force organization, history, officer skills, leadership and management, and national security policy and issues. Students find out first hand what the Air Force has to offer for scholarships while they are in school and what career opportunities await them after graduation with a Bachelors Degree.

For direct information on the Air Force ROTC program at San Jose State University, contact the Aerospace Studies Department at San Jose Sate University at 408.924.2960.