

Graduate Courses

CPLT 290. Directed Studies (1-6) Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

CPLT 290 (E-Z). Directed Studies (1-6) Outside research, 3-18 hours. Prerequisite(s): graduate standing; consent of instructor and department chair. To be taken as a means of meeting special curricular needs in literature. E. English; F. French; G. German; H. Greek; I. Italian; J. Japanese; K. Chinese; L. Latin; M. Latin American; R. Russian; S. Spanish; T. Scandinavian; U. American; V. Slavic. Segments are repeatable.

RUSN 292. Concurrent Analytical Studies (2) Outside research, 6 hours. Prerequisite(s): consent of instructor; concurrent enrollment in RUSN 100-series course. To be taken on an individual basis. Student will complete a graduate paper based on research related to the RUSN 100-series course. May be repeated with different topic. RUSN 103 may not be used for RUSN 292.

Professional Courses

CPLT 301. Teaching of Foreign Language at the College Level (4) Lecture, 3 hours; term paper, 3 hours. Prerequisite(s): graduate standing, or senior standing with consent of instructor. Covers first and second language acquisition; general models of L2 learning; learning different types of grammar; learning other components of language: acquisition of pronunciation, vocabulary, and discourse; multilingual societies and the goals of language teaching; and implications of second language acquisition research for the foreign language classroom. Graded Satisfactory (S) or No Credit (NC).

RUSN 302. Teaching Practicum (1-4) Practicum, 3-12 hours. Prerequisite(s): CPLT 301 or equivalent; graduate standing; employment as a teaching assistant or associate in. Supervised teaching in lower-division courses. Required of all teaching assistants in Russian. Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

Language Major

Committee in Charge

Thomas F. Scanlon, Ph.D., Chair *Classics/Comparative Ancient Civilizations/Comparative Literature*

William W. Megenney, Ph.D. (Hispanic Studies)

Heidi Waltz, Ph.D. *Linguistics/Germanic Studies*

Yenna Wu, Ph.D. *Chinese/Civilizations/Comparative Literature*

Stephen E. Cullenberg, Ph.D.

Dean, College of Humanities, Arts, and Social Sciences, ex officio

Major

The B.A. in Language allows a student to specialize in two or three foreign languages through a knowledge not only of the languages themselves but also of the bases of language (linguistics), examples of their creative use (literature), and the cultures which they reflect (civilization).

Students interested in a single language concentration should see individual language program listings in this catalog.

Two Foreign Languages Option

1. CPLT 015 and LING 020
2. Elementary and intermediate courses in languages one and two as required
3. Sixty-four (64) upper-division units distributed as follows:
 - a) Language one — 28 units which must include the following minimums:
 - (1) Sixteen (16) units in language
 - (2) Twelve (12) units in literature and civilization
 - b) Language two — 20 units which must include the following minimums:
 - (1) Twelve (12) units in language
 - (2) Eight (8) units in literature and civilization
 - c) LING 111 — 4 units
 - d) One other course in Linguistics — 4 units
 - e) Eight (8) units of electives in any of the above-mentioned areas

Three Foreign Languages Option

1. CPLT 015 and LING 020
2. Elementary and intermediate courses in Language one, two, and three as required
3. Sixty-four (64) upper-division units distributed as follows:
 - a) Language one — 20 units which must include the following minimums:
 - (1) Twelve (12) units in language
 - (2) Eight (8) units in literature and civilization
 - b) Language two — 20 units which must include the following minimums:
 - (1) Twelve (12) units in language
 - (2) Eight (8) units in literature and civilization
 - c) Language three — 12 units in language
 - d) LING 111 — 4 units
 - e) One other course in Linguistics — 4 units
 - f) Four (4) units in electives from any of the above-mentioned areas

Literatures and Languages

Subject abbreviation: LTLG

Graduate Course

LTLG 250. Colloquium in Literatures and Languages (1-2) Seminar, 1 hour. Lectures and discussions by staff, visiting scholars and students on current research topic. Students delivering lectures may take the course for 2 units, students attending lecture and discussions may take the course for 1 unit. May not count towards minimum unit requirement for the

degree. Graded Satisfactory (S) or No Credit (NC). Course is repeatable to a maximum of 12 units.

Professional Course

CPLT 301. Teaching of Foreign Language at the College Level (4) Lecture, 3 hours; term paper, 3 hours.

Prerequisite(s): graduate standing, or senior standing with consent of instructor. Covers first and second language acquisition; general models of L2 learning; learning different types of grammar; learning other components of language: acquisition of pronunciation, vocabulary, and discourse; multilingual societies and the goals of language teaching; and implications of second language acquisition research for the foreign language classroom. Graded Satisfactory (S) or No Credit (NC).

Linguistics

Subject abbreviation: LING

Committee in Charge

David Kronenfeld, Ph.D., Chair (Anthropology)

Adalberto Aguirre, Ph.D. (Sociology)

Eugene Anderson, Ph.D. (Anthropology)

Curt Burgess, Ph.D. (Psychology)

William Megenney, Ph.D. (Hispanic Studies)

Larry Rosenblum, Ph.D. (Psychology)

Melanie Sperling, Ph.D. (School of Education)

Stanley Stewart, Ph.D. (English)

Howard Wettstein, Ph.D. (Philosophy)

Stephen E. Cullenberg, Ph.D.

Dean, College of Humanities, Arts, and Social Sciences, ex officio

Linguistics is the science of language. It seeks to discover the psychological and motor mechanisms of human speech, the similarities and differences among languages, how languages change, and the way in which language is acquired. Because linguistics is largely independent of fields with which the student is likely to be familiar, no special background is required for students entering the major.

Linguistics interacts with a wide variety of fields, such as articulatory phonetics (biology), acoustic phonetics (physics), field methods (anthropology), language and culture (anthropology), sociolinguistics, psycholinguistics, neurolinguistics, logic, the philosophy of language, and the study of particular languages (including their history). This interaction provides opportunities for students with varied interests and can give new perspectives to those in related disciplines.

Major

Upon electing the linguistics major, and certainly no later than the middle of the sophomore year, a student should see the Director of the Linguistics Committee for advising.

The director can help students find a suitable advisor to file the necessary forms. In consultation with an advisor, a student plans a coherent program of specific courses to meet the requirements below. The student and the advisor must then submit a copy of the program to the full Committee on Linguistics for approval.

Students interested in the linguistics major should request from the committee director

information concerning the many possible course programs. Many of them permit double majors, thus providing strong preparation for further study in two fields.

Students may add variety and depth to their UCR linguistics major by attending a Summer Program in Linguistics (held in various places) or by participating in the Education Abroad Program (EAP). This is an excellent opportunity to become deeply familiar with another country and its culture while earning academic units towards graduation. Students should plan study abroad well in advance to ensure that the courses taken fit with their overall program at UCR. Consult the departmental student affairs officer for assistance. For further details visit UCR's International Education Center at internationalcenter.ucr.edu or call (951) 827-4113.

See Education Abroad Program under International Education Center in the Student Services section of this catalog. A list of participating countries is found under Education Abroad Program in the Programs and Courses section. Search for programs by specific areas at eap.ucop.edu/programwizard.

Requirements for the major are as follows:

- LING 020
- Twenty-four (24) upper-division units distributed as follows:
 - LING 111, LING 121, LING 131, LING 141
 - ANTH 123
 - PHIL 132 or PSYC 135
- At least 12 additional upper-division units of linguistic electives, to be chosen in consultation with the advisor and with the approval of the Linguistics Program director. (The additional courses may be in linguistics or in related fields. They may relate either to a particular field or specialization or to general linguistics.)
- Foreign language proficiency equivalent to six quarters (24 units) of study, including at least fourth-quarter proficiency in one language. (Students may arrange with the director to satisfy this requirement by examination.)

Honors Program in Linguistics

- Linguistics requirement: LING 020, LING 111, LING 121, LING 141, LING 190, LING 191
- Related courses requirement:
 - ANTH 120, ANTH 123
 - ENGL 112
 - CS 008, CS 010, CS 012
 - MATH 144
 - PHIL 008 or PHIL 008H
 - Additional courses as may be required by the Linguistics Committee
- Language Requirement — study in at least two language areas:
 - Primary language: 24 units of foreign language instruction in a single language (this may include any courses taught in

that language) plus courses in the structure, phonetics and history of the primary language, if available

- Secondary language: 16 units of a single language or at least 8 units in each of two languages (none of which may be members of the same subfamily of Indo-European as the primary language) plus at least 8 units in the structure, phonetics, or history of the language(s) chosen for the secondary area

In fulfilling the language requirement, students interested in earning a degree beyond the B.A. should take into account the foreign language requirements of the graduate schools to which they may apply.

Students must have at least a 3.00 GPA in courses required for the Honors Program.

Lower-Division Courses

LING 020. Language and Linguistics (4) Lecture, 3 hours. An introduction to modern linguistics. The nature of language; language structure; grammars; the languages of the world; historical and comparative linguistics; interdisciplinary approaches, including anthropological and psycholinguistics. **Megenney, Waltz**

LING 021. Grammar (4) Lecture, 3 hours; consultation, 1 hour. Fundamental concepts of grammatical structure: parts of speech, paradigms, word families, agreement and government, the grammar of sentences and longer units of discourse; style.

Upper-Division Courses

LING 111. Phonetics (4) Lecture, 3 hours; laboratory, 1 hour; outside research, 1 hour; extra reading, 1 hour. Prerequisite(s): LING 020. Practice in pronouncing and recognizing sounds from many languages. Covers methods of transcribing and analyzing these sounds.

LING 121. Syntax (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): LING 020. Survey of various approaches to syntax, including transformational. Syntactic structures of English and other languages are examined. Applications: English, foreign languages, philosophy, mathematics. **Kronenfeld, Waltz**

LING 131. Morphology (4) Lecture, 3 hours; seminar, 1 hour. Prerequisite(s): LING 020, LING 111 or LING 121. Studies word structure, the lexical component of language, allomorphy, types of morphemes, and inflexional and derivational morphology. Examines various theories of lexical/morphological organization in the brain. Examples are taken from English and other Indo-European languages.

LING 141. Phonology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): LING 111. Introduction to the study of functional sound units in speech, including phonotactics, morphophonemics. Various theories are examined, including generative. Applications: speech correction, speech analysis, English, foreign languages. **Levin**

LING 160 (E-Z). Topics in Dynamic and Comparative Linguistics (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): LING 111; LING 121 or LING 141. Comparative analyses of language groups such as Spanish and Portuguese, Slavic languages, and Native

American languages. E. Historical Linguistics; F. Dialectology; G. Language Change; I. Sociolinguistics.

LING 167. Structural/Descriptive Linguistics (4)

Lecture, 3 hours; outside research, 3 hours. Prerequisite(s): LING 020 or consent of instructor. An overview, from the original sources, of the contribution of major figures and schools in linguistics from Saussure through early Chomsky. Cross-listed with ANTH 167. **Kronenfeld**

LING 190. Special Studies (1-5) To be taken with the consent of the chair of the Committee as a means of meeting special curricular problems. Course is repeatable.

LING 191. Seminar in Linguistics (4) Seminar, 3 hours; consultation, 1 hour. Selected topics in language and linguistics. Course is repeatable to a maximum of 12 units.

LING 192. Tutorial Activities (1-2) Prerequisite(s): junior or senior standing and nomination by faculty. Enlarging understanding of linguistics through conducting tutorial sessions in introductory courses, under the supervision of faculty members responsible for the courses involved. Graded Satisfactory (S) or No Credit (NC). May be repeated for a maximum of three quarters.

LING 195. Senior Thesis (2-4) Thesis, 6-12 hours. Prerequisite(s): senior standing or consent of instructor. Independent research and preparation of a thesis completed under the supervision of a faculty member. Course is repeatable to a maximum of 12 units.

LING 195H. Senior Honors Thesis (2-4) Thesis, 6-12 hours. Prerequisite(s): invitation by faculty to pursue honors work in Linguistics; senior standing or consent of instructor. Intensive study, research, and preparation of a thesis in consultation with a faculty member. Grades are deferred until presentation of the thesis at the end of the final quarter. Satisfactory (S) or No Credit (NC) grading is not available. To be taken during two or three successive quarters; course is repeatable to a maximum of 12 units.

Related Courses

Refer to departmental listings for course descriptions.

Anthropology

- ANTH 120 (Language and Culture)
- ANTH 123 (Linguistic Anthropology)
- ANTH 165 (Cognitive Anthropology)
- ANTH 259 (Anthropological Linguistics)

Education

- EDUC 172 (Reading and Language Development)
- EDUC 177A (Language Development in Content Areas)
- EDUC 177B (Language Development in Content Areas)
- EDUC 201A (Theories and Processes of Reading)

English

- ENGL 112 (History of the English Language)

French (Comparative Literature and Foreign Languages)

- FREN 104 (Phonetics)

Mathematics

- MATH 144 (Introduction to Set Theory)

Philosophy

PHIL 125 (Intermediate Logic)
 PHIL 126 (Advanced Logic)
 PHIL 132 (Philosophy of Language)

Psychology

PSYC 110 (The Brain and Behavior)
 PSYC 134 (Cognitive Processes)
 PSYC 135 (Psycholinguistics)
 PSYC 163 (Cognitive Development)

Spanish

SPN 105 (Phonology of the Spanish Language)
 SPN 106A, SPN 106B (Structure of the Spanish Language)
 SPN 207 (History of the Spanish Language)

Computer Engineering

The Marlan and Rosemary Bourns College of Engineering

Jay A. Farrell, Ph.D., Chair
 Advising Office, A159 Bourns Hall
 (951) 827-ENGR (3647);
www.engr.ucr.edu/studentaffairs

Committee in Charge

Jay A. Farrell, Ph.D. (Electrical Engineering)
 Marek Chrobak, Ph.D. (Computer Science and Engineering)
 Reza Abbaschian, Ph.D.
Dean, The Marlan and Rosemary Bourns College of Engineering, ex officio

Major

The Computer Engineering major stresses the study of core computer science and electrical engineering topics. It prepares students for careers in the design of complex systems involving computer hardware, computer software, electronics and electrical signals for communications, networking, desktop computing, and embedded computing.

The major is offered jointly by the departments of Computer Science and Engineering, and Electrical Engineering.

The objective of the Computer Engineering program is to produce graduates who:

- have a mastery of the fundamental areas required for designing and using computers and engineered systems that contain computers
- have an ability to apply principles of engineering, mathematics, science, and statistics to the use, design, and interfacing of computers
- are able to apply modern design methodologies and state-of-the-art tools to design problems common to modern computer engineering practice
- have had extensive, relevant laboratory and hands-on experience to strengthen their understanding of scientific, logical, statistical, and engineering principles
- have a well-rounded and balanced education through required studies in elected areas of the humanities and social sciences

- are adept at both oral and written communication
- possess the high-quality undergraduate education necessary to progress to the M.S. and Ph.D. level or succeed in a career in industry
- understand the social, cultural, ethical, and environmental context of their work

The Computer Engineering B.S. degree at UCR is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; (410) 347-7700. For more details, visit www1.cs.ucr.edu.

The Intersegmental General Education Transfer Curriculum (IGETC) does not meet transfer requirements for Engineering.

All undergraduates in the College of Engineering must see an advisor at least annually. Visit www.engr.ucr.edu/studentaffairs for details.

University Requirements

See Undergraduate Studies section.

College Requirements

See The Marlan and Rosemary Bourns College of Engineering, Colleges and Programs section.

The Computer Engineering major uses the following major requirements toward the satisfaction of some of the college's Natural Science and Mathematics breadth requirements.

1. MATH 008B or MATH 009A
2. PHYS 040A, PHYS 040B, PHYS 040C

Major Requirements

1. Lower-division requirements (68 units):
 - a) ENGR 001G
 - b) CS 010, CS 012, CS 014, CS 061
 - c) CS 011/MATH 011
 - d) EE 001A, EE 011A, EE 001B
 - e) MATH 008B or MATH 009A, MATH 009B, MATH 009C, MATH 010A, MATH 046
 - f) PHYS 040A, PHYS 040B, PHYS 040C
 - g) One course of 4 or more units in Chemistry to be selected in consultation with a faculty advisor.
2. Upper-division requirements (80 units minimum)
 - a) CS 141, CS 161, CS 161L; one course from CS 153 or CS 160
 - b) CS 120A/EE 120A, CS 120B/EE 120B; one course from CS 122A or EE 128
 - c) CS 111/MATH 111
 - d) EE 100A, EE 100B, EE 110A, EE 110B
 - e) ENGR 180
 - f) MATH 113
 - g) STAT 155
 - h) Five courses (at least 20 units) as technical electives from the following set of Computer

Science and Engineering, and Electrical Engineering upper-division courses

CS 100, CS 122A, CS 122B, CS 130, CS 133, CS 150, CS 152, CS 153, CS 160, CS 162, CS 164, CS 165, CS 166, CS 168, CS 170, CS 177, CS 179 (E-Z), CS 180, CS 181, CS 183, CS 193

EE 105, EE 115, EE 128, EE 132, EE 140, EE 141, EE 144, EE 146, EE 150, EE 151, EE 152, EE 175A, EE 175B

The technical electives selected from h) must include either CS 179 (E-Z) or both EE 175A and EE 175B. The selection of the remaining technical electives must be planned, in consultation with a faculty advisor, to include at least one coherent sequence of two classes from either Computer Science and Engineering or Electrical Engineering. The technical electives must be distinct from those used to satisfy the upper-division requirements specified in items a) and b) above.

Students may petition for exceptions to the above degree requirements. Exceptions to Computer Science course requirements must be approved by the Computer Science and Engineering undergraduate advisor or chair, and exceptions to Electrical Engineering course requirements must be approved by the Electrical Engineering undergraduate advisor or chair. Exceptions to other requirements require the approval of the undergraduate advisors or chairs of both departments.

Visit the Student Affairs Office in the College of Engineering or www.engr.ucr.edu/studentaffairs for a sample program.

Computer Science and Engineering

Subject abbreviation: CS The Marlan and Rosemary Bourns College of Engineering

Laxmi N. Bhuyan, Ph.D., Chair
 Department Office,
 351 Engineering Building Unit II
 (951) 827-5639; www1.cs.ucr.edu

Professors

Laxmi N. Bhuyan, Ph.D.
 Marek Chrobak, Ph.D.
 Gianfranco Ciardo, Ph.D.
 Dimitrios Gunopulos, Ph.D.
 Rajiv Gupta, Ph.D.
 Tao Jiang, Ph.D. *President's Chair*
 Mart L. Molle, Ph.D.
 Walid Najjar, Ph.D.
 Teodor C. Przymusinski, Ph.D.
 China Ravishankar, Ph.D.
 Vassilis Tsotras, Ph.D.
 Frank N. Vahid, Ph.D.

Professors Emeriti

Yang-Chang Hong, Ph.D.
 Lawrence L. Larmore, Ph.D.