



**Major Updates for 2017-2018** 

#### **College of Letters and Science**

#### **NEW MAJORS:**

#### Major ASIAN LANGUAGES AND LINGUISTICS

#### **Description of Major**

The Asian Languages and Linguistics (AL&L) major encourages students to be exposed to multiple Asian languages and cultures to gain awareness of linguistic diversities in Asia as well as diversities in multi-racial and multi-ethnic communities in Los Angeles. The AL&L major focuses on two related fields of linguistics, the discourse-functional and socio-linguistics, and language pedagogy. The skills for linguistic and cultural analysis gained in this major will prepare students for an advanced degree in related fields, international relations and business tracks, and teaching languages locally and globally.

#### **Major Requirements**

- Two years of Chinese, Japanese, Korean, Filipino/Tagalog, Hindi, Indonesian, Thai, or Vietnamese
- One civilization course on Asia or one introduction to Asian religions courses
- One introduction to linguistics analysis course
- NOTE: a placement exam is required for all language majors regardless of credits earned in lower division language courses.

#### NORDIC STUDIES

The **B.A. in Nordic Studies** trains undergraduate students in a comprehensive, interdisciplinary understanding of the Nordic region (Denmark, Norway, Sweden, Finland and Iceland, along with Greenland, and the Faroe Islands). The goal of the major is to provide the student majoring in Nordic Studies with a robust knowledge of the cultures and histories of the Nordic countries from a global and transdisciplinary perspective. Importantly, the major allows interested students an opportunity to explore the Nordic region from the perspective of non-Humanities disciplines if they so choose while requiring a strong grounding in the history and cultures of the region.

While there are no specific preparation courses required for admission into this major, the department recommends that students complete IGETC or the General Education course pattern at their college. The Nordic Studies major does NOT enforce foreign language study as a prerequisite, however, UCLA College does have a <u>foreign language</u> <u>requirement</u> that must be satisfied in order for a degree to be awarded. For more information regarding the degree or major preparation, visit the **College of Letters and Science website** and www.scandinavian.ucla.edu.

#### MAJORS WITH UPDATES FOR 2017-18:

Major	2016-2017 Major Requirements	Updated 2017-18 Major Requirements
ASIAN AMERICAN STUDIES	<ul> <li>Required : Two courses from</li> <li>Asia Am 10 (History of Asian Americans)</li> <li>Asia Am 20 (Contemporary Asian American Communities)</li> </ul>	<ul> <li>Required: Two courses from <ul> <li>Asia Am 10 (History of Asian Americans)</li> <li>Asia Am 20 (Contemporary Asian American Communities)</li> <li>Asia Am 30 (Asian American Literature and Culture)</li> <li>Asia Am 40 (Asian American Movement)</li> <li>Asia Am 50 (Asian American Women)</li> </ul> </li> <li>Summary of major changes: <ul> <li>Asia Am 30, 40, and 50 have been added as options to meet the 2 course requirements for this major</li> </ul> </li> </ul>
COGNITIVE SCIENCE	<ul> <li>Required: one course from each area:</li> <li>Psych 10 (Introductory Psychology)</li> <li>Life Science 1 (Evolution, Ecology, and Biodiversity) OR Life Science 15 (Life: Concepts and Issues) OR Phy Sci 3 (Introduction to Human Physiology); Chemistry 2 (Introductory Chemistry) OR Chem 20A (Chemical Structure) OR Physics 10 (Physics) OR Physics 11 (Revolutions in Physics) OR Physics 1A (Physics for Scientists and Engineers:</li> </ul>	<ul> <li>Required: one course from each area:</li> <li>Psych 10 (Introductory Psychology)</li> <li>Life Science 1 (Evolution, Ecology, and Biodiversity) or Life Science 7A (Cell and Molecular Biology) OR Life Science 15 (Life: Concepts and Issues) OR Phy Sci 3 (Introduction to Human Physiology); Chemistry 2 (Introductory Chemistry) or Chem 17 (Chemical Principles) OR Chem 20A (Chemical Structure) OR Physics 10 (Physics) OR</li> </ul>

Mechanics) OR **Physics 6A** (Physics for Life Science Majors: Mechanics) OR **Ling 1** (Introduction to Study of Language) OR **Ling 20** (Introduction to Linguistic Analysis)

- Math 3A (Calculus for Life Sciences Students) & Math 3B (Calculus for Life Sciences Students) & Math 3C OR Math 31A (Differential and Integral Calculus) & Math 31B (Integration and Infinite Studies)
- Philosophy 7 (Introduction to Philosophy of Mind) OR 8 (Introduction to Philosophy of Science) OR 9 (Principles of Critical Reasoning) OR 23 (Meaning and Communication) OR 31 (Logic, First Course)
- Computing 10A (Introduction to Programming) and two courses from: 10B (Intermediate Programming), 10C (Advanced Programming), 15 (Introduction to Lisp and Symbolic Computation), 20A (Principles of Java Language with Applications), 30 (Machine Organization and Assembly Language Programming), 40A (Introduction to Programming for Internet), 60 (Data Structures and Algorithms) & Psych 20A (MATLAB Programming for Behavioral Sciences; Psych 20B: Advanced

Physics 11 (Revolutions in Physics) OR
Physics 1A (Physics for Scientists and Engineers: Mechanics) OR Physics 6A
(Physics for Life Science Majors: Mechanics) OR Ling 1 (Introduction to Study of Language) OR Ling 20
(Introduction to Linguistic Analysis)

- Math 3A (Calculus for Life Sciences Students) & Math 3B (Calculus for Life Sciences Students) & Math 3C OR Math 31A (Differential and Integral Calculus) & Math 31B (Integration and Infinite Studies)
- **Philosophy 7** (Introduction to Philosophy of Mind) OR **8** (Introduction to Philosophy of Science) OR **9** (Principles of Critical Reasoning) OR **23** (Meaning and Communication) OR **31** (Logic, First Course)
- Computing 10A (Introduction to Programming) and two courses from: 10B (Intermediate Programming), 10C (Advanced Programming), 15 (Introduction to Lisp and Symbolic Computation), 16 (Python with Applications), 20A (Principles of Java Language with Applications), 30 (Machine Organization and Assembly

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	Topics in MATLAB Programming for Behavioral Sciences)	Language Programming), <b>40A</b> (Introduction to Programming for Internet), <b>60</b> (Data Structures and Algorithms) & (Psych <b>20A</b> : MATLAB Programming for Behavioral Sciences; Psych <b>20B</b> : Advanced Topics in MATLAB Programming for Behavioral Sciences) Summary of major changes: Life Science 7A, Chemistry 17 and Computing 16 have been added as options to meet the course preparation for this major.	

COMPUTATIONAL AND SYSTEMS BIOLOGY	<ul> <li>Required:</li> <li>Chem 20A (Chemical Structure), 20B (Chemical Energetics and Change), &amp; 20L (General Chemistry Laboratory) &amp; 30A (Organic Chemistry)</li> <li>Computer Science 31 (Introduction to Computer Science 1) OR Computing 10A (Introduction to Programming)</li> <li>Mathematics 31A (Differential and Integral Calculus), 31B (Integration and Infinite Studies), Math 32A, (Calculus of Several Variables), Math 32B (Calculus of Several Variables), 33A (Linear Algebra and Applications), 33B (Differential Equations)</li> <li>Physics 1A (Physics for Scientists and Engineers: Mechanics), 1B (Physics for Scientists and Engineers: Oscillations, Waves, Electric and Magnetic Fields), and 1C (Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity), OR Physics 6A (Physics for Life Sciences Majors: Mechanics and Energy), 6B (Physics for Life Sciences Majors: Thermodynamics, Fluids, Waves, Light, and Optics), and 6C (Physics for Life Sciences Majors: Electricity, Magnetism, and Modern Physics)</li> </ul>	<ul> <li>Required:</li> <li>Chem 20A (Chemical Structure), 20B (Chemical Energetics and Change), &amp; 20L (General Chemistry Laboratory); Chem 30A is no longer required for this major</li> <li>Computer Science 31 (Introduction to Computer Science I) OR Computing 10A (Introduction to Programming)</li> <li>Mathematics 31A (Differential and Integral Calculus), 31B (Integration and Infinite Studies), 33A (Linear Algebra and Applications), 33B (Differential Equations)</li> <li>Math 32A&amp;32B are no longer required prep courses for this major</li> <li>Physics 1A (Physics for Scientists and Engineers: Mechanics), 1B (Physics for Scientists and Engineers: Oscillations, Waves, Electric and Magnetic Fields), and 1C (Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity), OR Physics 5ABC</li> </ul>

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	<ul> <li>Life Sciences 1(Evolution, Ecology, and Biodiversity), 2 (Cells, Tissues, and Organs), 3 (Introduction to Molecular Biology), and 4 (Genetics) OR 7A (Cell and Molecular Biology), 7B (Genetics, Evolution, and Ecology), and 7C (Physiology and Human Biology)</li> </ul>	<ul> <li>Life Sciences 1(Evolution, Ecology, and Biodiversity), 2 (Cells, Tissues, and Organs), 3 (Introduction to Molecular Biology), and 4 (Genetics) OR 7A (Cell and Molecular Biology), 7B (Genetics, Evolution, and Ecology), and 7C (Physiology and Human Biology)</li> <li><u>Summary of major changes</u>: Chemistry 30A (Organic Chemistry) is no longer required for this major</li> <li>Math 32AB (Calculus of Several Variables) are no longer required for this major</li> <li>UCLA Physics 5ABC series will replace the current articulated 6ABC series beginning Spring 2018</li> </ul>
GLOBAL STUDIES	THIS MAJOR IS HIGHLY SELECTIVE.	THIS MAJOR IS HIGHLY SELECTIVE.
	Transfer students are admitted as Pre-Global Studies majors must apply to the Global Studies Majors after their first term. Transfer applicants must complete a minimum of <u>six</u> preparatory courses (of which two language courses may be applied) by the Spring term prior to transfer. Students must complete Global Studies 1 and all remaining prep courses with a B grade or better no later than the fall term of admission and also submit	Transfer students are admitted as Pre-Global Studies majors must apply to the Global Studies Majors <i>during</i> their first term. Transfer applicants must complete a minimum of <u>six</u> preparatory courses (of which two language courses may be applied) by the Spring term prior to transfer. Students must complete Global Studies 1 and all remaining prep courses with a B grade or better no later than the fall term of admission and also

a supplemental application to the department that fall quarter. A minimum of one year of language proficiency should be completed prior to matriculation. All courses must be taken for a letter grade.

#### **Required courses:**

- Global St 1
- One *statistics course* from **Political Science** 6, 6R, Statistics 10, or 30
- Two years of a modern foreign language and five additional courses, with no more than two from any of the following three categories:
- One culture and society course selected ٠ from: Anthropology 3-formerly 9: (Cultural Anthropology), Comparative Literature 1C (World Literature: Age of Enlightenment to 20<sup>th</sup> Century) or **2CW** (Survey of Literature: Age of Enlightenment to 20<sup>th</sup> Century), **1D** (Great Books from World at Large) or **2DW** (Survey of Literature: Great Books from World at Large), **4CW** (Literature and Writing: Age of Enlightenment to 20<sup>th</sup> Century) or **4DW** (Literature and Writing: Great Books from World at Large), Ethnomusicology 25 (Global Pop), Geography 3 (Cultural Geography), 6 (World Regions: Concepts and Contemporary Issues), History 2B (Social

submit a supplemental application to the department that fall quarter. A minimum of one year of language proficiency should be completed prior to matriculation. All courses must be taken for a letter grade.

### **Required courses:**

- Global St 1
- One *methods course* from **Political** Science 6, 6R, Statistics 10, or 30
- Two years of a modern foreign language and five additional courses, with no more than two from any of the following three categories:
- One culture and society course selected • from: Anthropology 3- formerly 9 (Cultural Anthropology), Anthro 33 (Culture&Communication), Comparative Literature 1C (World Literature: Age of Enlightenment to 20<sup>th</sup> Century) or **2CW** (Survey of Literature: Age of Enlightenment to 20<sup>th</sup> Century), **1D** (Great Books from World at Large) or **2DW** (Survey of Literature: Great Books from World at Large), 4CW (Literature and Writing: Age of Enlightenment to 20<sup>th</sup> Century) or **4DW** (Literature and Writing: Great Books from World at Large), Ethnomusicology 25 (Global Pop), Gender Studies 10 (Introduction to

Knowledge and Social Power), **World Arts** and Cultures 20 (Culture: Introduction), or 33 (Indigenous Worldviews)

- One governance and conflict course selected from: Environment 12 (Sustainability and Environment), History 10B (History of Africa, 1800 to Present), 22 (Contemporary World History, 1760 to Present), Political Science 10 (Introduction to Political Theory), 20 (World Politics), 50 (Introduction to Comparative Politics), or Sociology 1 (Introductory Sociology) AND
- <u>One markets course selected from:</u> Econ 1 (Principles of Economics), 2 (Principles of Economics), Environment 12 (Sustainability and Environment), Sociology 51 (Sociology of Migration)
- The remaining two courses, taken from two separate categories, may be selected from the three lists above
- One course from the following list may be applied toward the culture and society category: Asian 70C (Popular Culture in East Asia from 1945), French 14 (Introduction to French Culture and Civilization in English), 14W (Introduction to French Culture and Civilization in

Gender Studies), **Geography 3** (Cultural Geography), **6** (World Regions: Concepts and Contemporary Issues), **History 2B** (Social Knowledge and Social Power), **World Arts and Cultures 20** (Culture: Introduction), or **33** (Indigenous Worldviews)

- One governance and conflict course selected from: Environment 12 (Sustainability and Environment), History 10B (History of Africa, 1800 to Present), 22 (Contemporary World History, 1760 to Present), Political Science 10 (Introduction to Political Theory), 20 (World Politics), 50 (Introduction to Comparative Politics), or Sociology 1 (Introductory Sociology),
- One markets course selected from: Econ 1 (Principles of Economics), 2 (Principles of Economics), Environment 12 (Sustainability and Environment), Sociology 51 (Sociology of Migration)
- The remaining two courses, taken from two separate categories, may be selected from the three lists above
- One course from the following list may be applied toward the culture and society category: Asian 70C (Popular Culture in East Asia from 1945), Asian

English), History 8A (Colonial Latin America), 9E (Introduction to Asian Civilizations: Southeast Asian Crossroads). **International and Area Studies 31** (Introduction to Southeast Asia). 33 (Introduction to East Asia), 50 (Introduction to Latin America), Italian 42A (Italy through Ages in English: Saints and Sinners in Early Modern Italy), **42B** (Italy through Ages in English: Modern and Contemporary Italy), 46 (Italian Cinema and Culture in English), Middle Eastern Studies 50C (Making and Studying Modern Middle East), Russian 90A (Introduction to Russian Civilization), 90B (Russian Civilization in 20<sup>th</sup> Century), **90BW** (Russian Civilization in 20<sup>th</sup> Century), Spanish 42 (Iberian Culture), or 44 (Latin American Culture).

American Studies 10 (History of Asian Americans), Chicana and Chicano Studies 10B (Introduction to Chicana/Chicano Studies: Social Structure and Contemporary Conditions), French 14 (Introduction to French Culture and Civilization in English), 14W (Introduction to French Culture and Civilization in English), History 8A (Colonial Latin America), 9E (Introduction to Asian Civilizations: Southeast Asian Crossroads), **International and Area Studies 31** (Introduction to Southeast Asia), 33 (Introduction to East Asia), 50 (Introduction to Latin America), Italian **42A** (Italy through Ages in English: Saints and Sinners in Early Modern Italy), **42B** (Italy through Ages in English: Modern and Contemporary Italy), 46 (Italian Cinema and Culture in English), Middle Eastern Studies 50C (Making and Studying Modern Middle East), Russian 90A (Introduction to Russian Civilization), 90B (Russian Civilization in 20<sup>th</sup> Century), **90BW** (Russian Civilization in 20<sup>th</sup> Century), Spanish 42 (Iberian Culture), or 44 (Latin American Culture).

#### **Summary of major changes:**

Anthro 33 (Culture& Communication) has been added as an option to meet the Culture and Society requirement for (*Group- A*)

Gender 10 (Intro to Gender Studies) has been added as a course option to meet the Culture and Society requirement for (*Group-A*)

Asia Am 10 (History of Asian Americans) has been added as a course option to meet the Culture and Society requirement for (*Group- B*)

Chicano 10B (Intro to Chicano Studies) has been added as a course option to meet the Culture and Society requirement for (*Group-B*)

Additional major preparatory coursework may be completed at UCLA no later than Fall after transferring.

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HUMAN BIOLOGY AND SOCIETY B.A.	<ul> <li>Required Core:</li> <li>One course from Society and Genetics 5 (Integrative Approaches to Human Biology and Society), M71A (Biotechnology and Society), or M72A (Sex from Biology to Gendered Society)</li> <li>Also required: Anthropology 1 (Human Evolution), Chemistry and Biochemistry 14A (Atomic and Molecular Structure, Equilibria, Acids, and Bases), Life Sciences 1 (Evolution, Ecology and Biodiversity) and 2 (Cells, Tissues, and Organs) or 7A (Cell and Molecular Biology), 7B (Genetics, Evolution, and Ecology), and 7C (Physiology and Human Biology)</li> </ul>	<ul> <li>Required Core: <ul> <li>One course from Society and Genetics 5 (Integrative Approaches to Human Biology and Society), M71A (Biotechnology and Society), or M72A (Sex from Biology to Gendered Society)</li> </ul> </li> <li>Also required: Anthropology 1 (Human Evolution), Chemistry and Biochemistry 14A (Atomic and Molecular Structure, Equilibria, Acids, and Bases), Life Sciences 1 (Evolution, Ecology and Biodiversity) and 2 (Cells, Tissues, and Organs) or 7A (Cell and Molecular Biology), 7B (Genetics, Evolution, and Ecology), and 7C (Physiology and Human Biology)</li> </ul>
	<ul> <li>Statistics 10 (Introduction to Statistical Reasoning) or 13 (Introduction to Statistical Methods for Life and Health Sciences)</li> <li>Also Required: two social theory courses from: American Indian Studies M10 (Introduction to American Indian Studies), Anthropology 3 (Culture and Society), Asian American Studies 20 (Contemporary Asian American Communities), GE Clusters M1A-80CW, Gender Studies 10 (Introduction to Gender Studies), Geography 3 (Cultural Geography), History 3C (History of Science: 20<sup>th</sup> Century),</li> </ul>	<ul> <li>Statistics 10 (Introduction to Statistical Reasoning) or 13 (Introduction to Statistical Methods for Life and Health Sciences)</li> <li>Also Required: two social theory courses from: American Indian Studies M10 (Introduction to American Indian Studies), Anthropology 3 (Culture and Society), Asian American Studies 20 (Contemporary Asian American Communities), Chicana and Chicano Studies 10A (Introduction to</li> </ul>

Honors Collegium 70A (Genetic Engineering in Medicine, Agriculture, and Law), Molecular, Cell, and Developmental **Biology 40** (AIDS and Other Sexually Transmitted Diseases), 50 (Stem Cell **Biology**, Politics, and Ethics: Teasing Apart Issues), **60** (Biomedical Ethics), **Philosophy** 4 (Philosophical Analysis of Contemporary Moral Issues), 6 (Introduction to Political Philosophy), 8 (Introduction to Philosophy of Science), **22** (Introduction to Ethical Theory) or 22W (Introduction to Ethical Theory), Public Policy 10A (Introduction to Public Policy), Society and Genetics 85 (Critical Study of Health, Sickness, and Healing in Global Perspective), Sociology 1 (Introductory Sociology), M5 (Social Organization of Black Communities)

Chicana/Chicano Studies: History and Culture), 10B (Introduction to Chicana/Chicano Studies: Social Structure and Contemporary Conditions), GE **Clusters M1A-80CW**, Gender Studies 10 (Introduction to Gender Studies), Geography 3 (Cultural Geography), History 3C (History of Science: 20<sup>th</sup> Century), Honors Collegium 70A (Genetic Engineering in Medicine, Agriculture, and Law), Molecular, Cell, and Developmental Biology 40 (AIDS and Other Sexually Transmitted Diseases), **50** (Stem Cell Biology, Politics, and Ethics: Teasing Apart Issues), **60** (Biomedical Ethics), Philosophy 4 (Philosophical Analysis of Contemporary Moral Issues), 6 (Introduction to Political Philosophy), 8 (Introduction to Philosophy of Science), 22 (Introduction to Ethical Theory) or 22W (Introduction to Ethical Theory), **Public Policy 10A** (Introduction to Public Policy), Society and Genetics 85 (Critical Study of Health, Sickness, and Healing in Global Perspective), Sociology 1 (Introductory Sociology), M5 (Social Organization of Black Communities)

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		<b>Summary of major changes:</b> Chicana and Chicano Studies 10AB have been added as options to meet the course preparation for this major
HUMAN BIOLOGY AND SOCIETY B.S.	Required: To be considered for admission to this major, you must complete: <u>one year of biology with</u> <u>laboratory for major, one year of general</u> <u>chemistry with laboratory, one year of calculus</u> <u>and one semester of organic chemistry with</u> <u>laboratory.</u> Completion of a second semester of organic chemistry or one year of calculus-based physics is strongly recommended	Required: To be considered for admission to this major, you must complete: <u>one year of biology with</u> <u>laboratory for major, one year of general</u> <u>chemistry with laboratory, one year of calculus</u> <u>and one semester of organic chemistry with</u> <u>laboratory.</u> Completion of a second semester of organic chemistry or one year of calculus-based physics is strongly recommended
		<b>Summary of major changes:</b> Chicana and Chicano Studies 10AB have been added as additional prep courses to complete in the Fall <i>after</i> transfer to UCLA

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PSYCHOLOGY	<ul> <li>Required: one course from each area: <ul> <li>Life Science 1 (Evolution, Ecology, and Biodiversity) or 15 (Life: Concepts and Issues) or Phy Sci 3 (Introduction to Human Physiology)</li> <li>Chem 2 (Introductory Chemistry), or 20A (Chemical Structure) or Physics 10 (Physics) or 11 (Revolutions in Physics) or 1A (Physics for Scientists and Engineers: Mechanics) or 6A (Physics for Life Sciences Majors: Mechanics)</li> <li>One course from Mathematics 2 (Finite Mathematics), Computing 10A (Introduction to Programming), Statistics 10 (Introduction to Statistical Reasoning), or one term of calculus;</li> <li>One course from Philosophy 1 (Beginnings of Western Philosophy), 2 (Introduction to Philosophy of Religion), 3 (Historical Introduction to Philosophy), 4 (Philosophical Analysis of Contemporary Moral Issues), 5 (Philosophy in Literature), 6 (Introduction to Philosophy of Mind) 8 (Introduction to Philosophy of Science), 9 (Principles of Critical Reasoning), 21 (Skepticism and Rationality), 22W (Introduction to Ethical Theory), 22W (Introduction to Ethical</li> </ul></li></ul>	<ul> <li>Required: one course from each area:</li> <li>Life Science 1 (Evolution, Ecology, and Biodiversity) or 7A (Cell and Molecular Biology) or 15 (Life: Concepts and Issues) or Phy Sci 3 (Introduction to Human Physiology)</li> <li>Chem 2 (Introductory Chemistry), or 17 (Chemical Principles) or 20A (Chemical Structure) or Physics 10 (Physics) or 11 (Revolutions in Physics) or 1A (Physics for Scientists and Engineers: Mechanics) or 6A (Physics for Life Sciences Majors: Mechanics)</li> <li>One course from Mathematics 2 (Finite Mathematics), Computing 10A (Introduction to Programming), Statistics 10 (Introduction to Statistical Reasoning), or one term of calculus;</li> <li>One course from Philosophy 1 (Beginnings of Western Philosophy), 2 (Introduction to Philosophy of Religion), 3 (Historical Introduction to Philosophy), 4 (Philosophical Analysis of Contemporary Moral Issues), 5 (Philosophy in Literature), 6 (Introduction to Philosophy of Mind) 8 (Introduction to Philosophy of Science), 9 (Principles of</li> </ul>

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	<ul> <li>Theory), 23 (Meaning and Communication), 31 (Logic, First Course)</li> <li>Psych 10 (Introductory Psychology)</li> </ul>	Critical Reasoning), <b>21</b> (Skepticism and Rationality), <b>22</b> (Introduction to Ethical Theory), <b>22W</b> (Introduction to Ethical Theory), <b>23</b> (Meaning and Communication), <b>31</b> (Logic, First Course) • Psych 10 (Introductory Psychology) Summary of major changes: Life Science 7A and Chemistry 17 have been added as options to meet the course preparation for this major.
STATISTICS	Required major prep: Mathematics 31A, 31B, 32A, 32B, 33A, Statistics 20, Computing 10A and one course from Statistics 10 through 13.	Required major prep: Mathematics 31A, 31B, 32A, 32B, 33A, Statistics 20, and one course from Statistics 10 through 13. <u>Summary of major changes:</u> Computing 10A (Intro to Programming C++) is no longer required for this major.

#### Henry Samueli School of Engineering and Applied Science (HSSEAS)

#### **NEW MAJOR:**

COMPUTER ENGINEERING

Major

#### **Description of Major**

The UCLA Henry Samueli School of Engineering and Applied Science will offer a new undergraduate major -**Computer Engineering**. It will be jointly administered by the Computer Science Department and by the Electrical Engineering Department, which will be renamed the Electrical and Computer Engineering Department as a result. The major will be available starting with freshmen and transfer students who enter in fall quarter 2017. Rising sophomores will also be eligible. The major, culminating with a Bachelor of Science degree in Computer Engineering, embraces the movement toward embedding computer intelligence in everything from smart structures to personal technology. In addition to coursework in traditional areas of hardware and software development, this new program will allow students to focus on emerging technology such as the internet of things, robotic systems, and mobile/wearable/implantable computing devices

### Major Requirements

### **Required:**

- Engcomp 3 (English Composition, Rhetoric, and Language)
- One additional course in English composition
- Mathematics 31A (Differential and Integral Calculus) 31B (Integration and Infinite Series), 32A (Calculus of Several Variables) 32B (Calculus of Several Variables), 33A (Linear Algebra and Applications), 33B (Differential Equations);
- Physics 1A (Physics for Engineers and Scientists: Mechanics), 1B (Oscillations, Waves, Electricity and Magnetic Fields), 1C (Electrodynamics, Optics); 4AL (Physics Lab) <u>OR</u> 4BL (Physics Lab).
- <u>*Recommended courses:*</u> Computer Science 1, 31, 32, 33, 35L, M51A; Math 61

### MAJORS WITH UPDATES FOR 2017-2018:

Major	2016-17 Major Requirements	Updated 2017-18 Major Requirements
AEROSPACE ENGINEERING	Required:	Required:
	• Chemistry and Biochemistry <b>20A</b>	• Chemistry and Biochemistry <b>20A</b>
	(Chemical Structure), 20B	(Chemical Structure), <b>20B</b>
	(Chemical Energetics and	(Chemical Energetics and
	Change), <b>20L</b> (General Chemistry	Change), <b>20L</b> (General Chemistry
	Laboratory)	Laboratory)
	Mathematics 31A (Differential and	• Mathematics 31A (Differential
	Integral Calculus), 31B (Integration and	and Integral Calculus), <b>31B</b>
	Infinite Studies), 32A (Calculus of	(Integration and Infinite Studies),
	Several Variables), 32B (Calculus of	<b>32A</b> (Calculus of Several
	Several Variables), <b>33A</b> (Linear Algebra	Variables), 32B (Calculus of
	and Applications), 33B (Differential	Several Variables), 33A (Linear
	Equations)	Algebra and Applications);
	Mechanical and Aerospace	Math 33B (Differential Equations) is
	Engineering M20 (Introduction to	no longer required for this major
	Computer Programming with	
	MATLAB) (or Computer Science	MECH&AE 82 (Math of Engineering)
	<b>31</b> – Introduction to Computer	is now required for this major
	Science I), 82 (Mathematics of	
	Engineering)	Mechanical and Aerospace
		Engineering M20 (Introduction to
	• <b>Physics 1A</b> (Physics for Scientists	Computer Programming with
	and Engineers: Mechanics), 1B	MATLAB) (or <b>Computer Science</b>
	(Physics for Scientists and	31 – Introduction to Computer
	Engineers: Oscillations, Waves,	Science I), 82 (Mathematics of
	Electric and Magnetic Fields), <b>1C</b>	Engineering)

	• UCLA • (Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity), AAL (Physics Lab for Scientists and Engineers: Mechanics), 4BL (Physics Lab for Scientists and Engineers: Electricity and Magnetism).	<ul> <li>Physics 1A (Physics for Scientists and Engineers: Mechanics), 1B (Physics for Scientists and Engineers: Oscillations, Waves, Electric and Magnetic Fields), 1C (Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity), 4AL (Physics Lab for Scientists and Engineers: Mechanics), 4BL (Physics Lab for Scientists and Engineers: Electricity and Magnetism).</li> <li>Summary of major changes: Math 33B (Differential Equations) is no longer required for this major</li> <li>Mech&amp;AE 82 (Math of Engineering) is now required for this major</li> </ul>
CHEMICAL ENGINEERING	<ul> <li>Required:</li> <li>Engcomp 3 (English Composition, Rhetoric, and Language)</li> <li>One additional course in English composition course</li> <li>Chem 20A, (Chemical Structure), 20B (Chemical Energetics and Change), 20L (General Chemistry Laboratory), 30A, (Organic</li> </ul>	<ul> <li>Required:</li> <li>Engcomp 3(English Composition, Rhetoric, and Language)</li> <li>One additional course in English composition</li> <li>Chem 20A, (Chemical Structure), 20B (Chemical Energetics and Change), 20L (General Chemistry Laboratory), 30A, (Organic Chemistry) 30AL, (Organic</li> </ul>

COMPUTER SCIENCE	<ul> <li>Chemistry) 30AL,(Organic Chemistry Laboratory), 30B (Organic Chemistry);</li> <li>Mathematics 31A, (Differential and Integral Calculus), 31B, (Integration and Infinite Series), 32A (Calculus of Several Variables), 32B (Calculus of Several Variables) 33A (Linear Algebra and Applications), 33B (Differential Equations);</li> <li>Physics 1A(Physics for Scientists and Engineers: Mechanics), 1B (Oscillations), 1C (Electrodynamics), 4AL (Physics Laboratory : Mechanics), 4BL (Physics Laboratory: Electricity)</li> <li><u>Recommended courses:</u> C&amp;EE M20 (Civil and Environmental Engineering )</li> </ul>	<ul> <li>Chemistry Laboratory), 30B (Organic Chemistry);</li> <li>Mathematics 31A, (Differential and Integral Calculus), 31B, (Integration and Infinite Series), 32A (Calculus of Several Variables), 32B (Calculus of Several Variables) 33A (Linear Algebra and Applications), 33B (Differential Equations);</li> <li>Physics 1A(Physics for Scientists and Engineers: Mechanics), 1B (Oscillations), 1C (Electrodynamics), 4AL (Physics Laboratory : Mechanics),</li> <li><u>Recommended courses</u>: C&amp;EE M20 (Civil and Environmental Engineering)</li> <li>Summary of major changes: Physics 4BL is no longer required for this major</li> </ul>
CONFUTER SCIENCE	• Engcomp 3 (English Composition, Rhetoric, and Language)	• Engcomp 3 (English Composition, Rhetoric, and Language)

- One additional course in English composition
- Mathematics 31A (Differential and Integral Calculus), 31B (Integration and Infinite Series), 32A (Calculus of Several Variables), 32B (Calculus of Several Variables), 33A (Linear Algebra and Applications), 33B (Differential Equations);
- Physics 1A (Physics for Engineers and Scientists: Mechanics), 1B (Oscillations, Waves, Electric and Magnetic Fields), 1C (Electrodynamics, Optics); 4AL (Physics Lab) <u>AND</u>, 4BL (Physics Lab).
- <u>*Recommended courses:*</u> Computer Science 1, 31, 32, 33, 35L, M51A; Math 61

- One additional course in English composition
- Mathematics 31A (Differential and Integral Calculus), 31B (Integration and Infinite Series), 32A (Calculus of Several Variables), 32B (Calculus of Several Variables), 33A (Linear Algebra and Applications), 33B (Differential Equations);
- Physics 1A (Physics for Engineers and Scientists: Mechanics), 1B (Oscillations, Waves, Electric and Magnetic Fields), 1C (Electrodynamics, Optics) 4AL (Physics Lab) <u>OR</u>, 4BL (Physics Lab).
- <u>*Recommended courses:*</u> Computer Science 1, 31, 32, 33, 35L, M51A; Math 61

#### **Summary of major changes:**

Computer Science major now only requires completion of *either* **Physics 4AL OR 4BL.** 

COMPUTER SCIENCE AND	Required:	Required:
ENGINEERING	<ul> <li>Engcomp 3 (English Composition, Rhetoric, and Language)</li> <li>One additional course in English composition</li> <li>Mathematics 31A (Differential and Integral Calculus) 31B (Integration and Infinite Series), 32A (Calculus of Several Variables) 32B (Calculus of Several Variables), 33A (Linear Algebra and Applications), 33B (Differential Equations);</li> <li>Physics 1A (Physics for Engineers and Scientists: Mechanics), 1B (Oscillations, Waves, Electric and Magnetic Fields), 1C (Electrodynamics, Optics); 4AL (Physics Lab), <u>AND</u> 4BL (Physics Lab).</li> </ul>	<ul> <li>Engcomp 3 (English Composition, Rhetoric, and Language)</li> <li>One additional course in English composition</li> <li>Mathematics 31A (Differential and Integral Calculus) 31B (Integration and Infinite Series), 32A (Calculus of Several Variables) 32B (Calculus of Several Variables), 33A (Linear Algebra and Applications), 33B (Differential Equations);</li> <li>Physics 1A (Physics for Engineers and Scientists: Mechanics), 1B (Oscillations, Waves, Electricity and Magnetic Fields), 1C (Electrodynamics, Optics); 4AL (Physics Lab) <u>OR</u> 4BL (Physics Lab).</li> </ul>
	• <u>Recommended courses</u> : Computer Science 1, 31, 32, 33, 35L, M51A; Math 61	<ul> <li><u>Recommended courses:</u> Computer Science 1, 31, 32, 33, 35L, M51A; Math 61</li> <li><u>Summary of major changes</u>: Computer Science &amp; Engr major now</li> </ul>
		only requires completion of <u>either</u> Physics 4AL or 4BL.

#### MECHANICAL ENGINEERING **Required: Required:** • Chem 20A, (Chemical Structure) Chem 20A, (Chemical Structure) • 20B, (Chemical Energetics and 20B, (Chemical Energetics and Change), **20L**(General Chemistry Change), 20L(General Chemistry Lab): Lab): Mathematics 31A, (Differential Mathematics 31A, (Differential • and Integral Calculus), 31B( and Integral Calculus), **31B**( Integration and Infinite Series), Integration and Infinite Series), 32A (Calculus of Several 32A (Calculus of Several Variables), 32B (Calculus of Variables), 32B (Calculus of Several Variables),**33A**, (Linear Several Variables),**33A**, (Linear Algebra and Applications), 33B Algebra and Applications), (Differential Equations); Math 33B (Differential Equations) is **Physics 1A** (Physics for • no longer required for this major Engineers: Mechanics), 1B (Oscillation, Waves, Electric and Mech & AE 82 (Mathematics for Magnetic Fields), 1C, (Electrodynamics, Optics and Engineering) is now required for this Special Relativity), 4AL (Physics major Lab: Mechanics), **4BL** (Physics Lab: Electricity and Magnetism) Physics 1A (Physics for Engineers: Mechanics), 1B (Oscillation, Waves, Electric and **Recommended courses:** C&EE • M20 (Mechanical and Aerospace Magnetic Fields), 1C (Electrodynamics, Optics and Engineering), 94, (or Computer Special Relativity), 4AL (Physics Science 31), Lab: Mechanics), 4BL, (Physics Lab: Electricity and Magnetism) Recommended courses: C&EE M20 (Mechanical and Aerospace



Engineering M20, 94 (or Computer Science 31),

#### **Summary of major changes:**

Math 33B (Differential Equations) is no longer required for this major

MAE 82 (Math for Engineering) is now a required prep course.

#### **School of Arts and Architecture**

#### MAJORS WITH UPDATES FOR 2017-18:

### Major

### ARCHITECTURAL STUDIES

#### **2016-17 Major Requirements**

The focus of the Architectural Studies major is on the built environment. The curriculum conceives of architecture as a cultural, creative, and technical practice and a discipline with direct social impact. Within the context of a liberal arts education a finely balanced set of architecture and urban design courses ranging from the history and theory of design to contemporary building technologies will provide students with a diverse foundation of knowledge in the field of architecture and prepare them for graduate school and/or careers in a wide range of fields.

**Preparation for the major:** Two courses in the history of architecture [Pre-History-Mannerism and 1600-present], and one introduction to architectural studies course. Most transfer applicants will be required to complete these preparatory courses at UCLA.

**Portfolio and & supplemental requirements:** In addition to the general UC

#### **Updated 2017-18 Major Requirements**

The focus of the Architectural Studies major is on the built environment. The curriculum conceives of architecture as a cultural, creative, and technical practice and a discipline with direct social impact. Within the context of a liberal arts education a finely balanced set of architecture and urban design courses ranging from the history and theory of design to contemporary building technologies will provide students with a diverse foundation of knowledge in the field of architecture and prepare them for graduate school and/or careers in a wide range of fields.

Admission to the Architectural Studies major is very competitive. The most important admission criteria is the supplemental application which requires a portfolio of creative work. While it may be beneficial to complete the courses listed below as recommended preparation, there is no guarantee they will transfer as exact UCLA equivalents.

Application, applicants must submit a portfolio of creative work as well as departmental statement of interest by digital upload. Additional fees may apply. All applicants must have a minimum 3.0 GPA at the time of application. Specific guidelines may be found at:www.arts.ucla.edu/prospectivestudents. Substitutions for lower division requirements will be determined by the department in the summer following admission. Syllabi or other descriptive course documentation may be required for consideration.

### Recommended (**not required**) preparation for the major:

Two courses in the history of architecture [Pre-History-Mannerism and 1600-present], and one introduction to architectural studies course. Most transfer applicants will be required to complete these preparatory courses at UCLA.

#### **Portfolio and Supplemental**

**Requirements:** In addition to the general UC Application, applicants must submit a supplemental application that includes a portfolio of creative work. Additional fees may apply. Applicants must have a cumulative 3.0 GPA at the time of application. Completion of IGETC is not required, but strongly recommended. Specific guidelines may be found at: ww.arts.ucla.edu/ prospective-students.

The Department of Art is committed to professional art training and encourages new fields of investigation. Students work in the following media: painting, drawing, sculpture, ceramics, new genres, and art theory.

**Recommended (not required) preparation for the major**: One course each in drawing, sculpture, painting, photography, ceramics, and new genres [performance art, video art, installation, and non-studio work]; four courses in art history, including one course covering each of the following art historical periods: 1850s-1920s, 1920s-1960s, 1960s-present.

Substitutions for lower division requirements will be determined by the department in the summer following admission. Syllabi or other descriptive course documentation may be required for consideration.

Portfolio and supplemental requirements: In addition to the general UC Application, applicants must submit a portfolio of creative work as well as departmental statement of interest by digital upload. Additional fees may apply. Applicants must have a The Department of Art is committed to professional art training and encourages new fields of investigation. Students work in the following media: painting, drawing, sculpture, ceramics, new genres, and art theory.

Admission to the Art major is very competitive. The most important admission criteria is the supplemental application which requires a portfolio of creative work. While it may be beneficial to complete the courses listed below as recommended preparation, there is no guarantee they will transfer as exact UCLA equivalents.

Recommended (not required) preparation for the major: One course each in drawing, sculpture, painting, photography, ceramics, and new genres [performance art, video art, installation, and non-studio work]; four courses in art history, including one course covering each of the following art historical periods: 1850s-1920s, 1920s-1960s, 1960s-present. Substitutions for lower division requirements will be determined by the department in the summer following admission. Syllabi or other descriptive

•• UCLA ••		
	minimum 3.0 GPA at the time of application. Specific guidelines may be found at: www.arts.ucla.edu/prospective- students.	course documentation may be required for consideration. Portfolio and supplemental requirements: In addition to the general UC Application, applicants must submit a portfolio of creative work. Additional fees may apply. Applicants must have a cumulative 3.0 GPA at the time of application. Completion of IGETC is not required, but strongly recommended. Specific guidelines may be found at: www.arts.ucla.edu/prospective-students.
DANCE	The Department of World Arts and Culture/Dance is at the forefront of innovative, interdisciplinary, and cross- cultural studies of the arts, offering a curriculum in which students can explore the vital relationship of the arts and performance to cultural theory and criticism. <b>The Dance major</b> thoroughly integrates learning to dance, learning to make dances, and critical interrogation of dance as a cultural practice. Students study a variety of dance techniques from around the world throughout their studies. They enroll in a four-term sequence in dance composition, with additional opportunities to participate in the creation of their own dances, as well as working as	The Department of World Arts and Cultures/Dance is at the forefront of innovative, interdisciplinary, and cross- cultural studies of the arts, offering a curriculum in which students can explore the vital relationship of the arts and performance to cultural theory and criticism. <b>The Dance major</b> thoroughly integrates learning to dance, learning to make dances, and critical interrogation of dance as a cultural practice. Students study a variety of dance techniques from around the world throughout their studies. They enroll in a four-term sequence in dance composition, with additional opportunities to participate in the creation of their own dances, as well as working as

dancers in the creation of new works by faculty members and visiting artists. Further, they engage in a core of four courses in the study of scholarly discourse around the body and dance, launching a critical inquiry into their own study of bodily practices, internalization of the embodied experience, and how bodily ideas and embodied experiences are interpreted and communicated outwardly and interpersonally, both locally and globally.

**Preparation for the major:** All preparatory coursework should be completed at UCLA. Substitutions for lower division requirements will be determined by the department in the summer following admission. Syllabi or other descriptive course documentation may be required for consideration.

Audition/interview and supplemental requirements: Successful applicants must have strong academic preparation and show evidence of involvement in the arts and community that demonstrates interests in varied cultures. In addition to the general UC Application, all applicants must submit a supplemental application dancers in the creation of new works by faculty members and visiting artists. Furthermore, they engage in a core of four courses in the study of scholarly discourse around the body and dance, launching a critical inquiry into their own study of bodily practices, internalization of the embodied experience, and how bodily ideas and embodied experiences are interpreted and communicated outwardly and interpersonally, both locally and globally.

Admission to the Dance major is very competitive. The most important admission criteria is the supplemental application, which includes an audition. While it may be beneficial to complete the courses listed below as recommended preparation, there is no guarantee they will transfer as exact UCLA equivalents.

Substitutions for lower division requirements will be determined by the department in the summer following admission. Syllabi or other descriptive course documentation may be required for consideration.

Recommended (<u>not required</u>) preparation for the major: One course each

and letters of recommendation by digital upload. Additional fees may apply. Applicants to the Dance major will be asked to audition. All students must have a minimum 3.0 GPA at the time of the application. Specific guidelines may be found at: www.arts.ucla.edu/prospective-students. improvisation/ choreography, dance history and theory, and coursework focusing on using dance as a medium to connect and engage community. At least eight courses in various dance techniques particularly modern/postmodern dance, Hip-Hop, West African or Ballet.

Audition/interview and supplemental requirements: Successful applicants must have strong academic preparation and show evidence of involvement in the arts and community that demonstrates interests in varied cultures. In addition to the general UC Application, applicants must submit a supplemental application and letters of recommendation. Additional fees may apply. Applicants to the Dance major will be asked to audition. All students must have a cumulative 3.0 GPA at the time of the application. Completion of IGETC is not required, but strongly recommended. Specific guidelines may be found at: www.arts.ucla.edu/prospective-students. Dance will consider sophomore transfers. For more information about admission criteria for sophomore transfers, please visit www.arts.ucla.edu/prospective-students.

#### DESIGN | MEDIA ARTS

The Department of Design | Media Arts program emphasizes visual, audio, analytical theoretical, and technology mediated work in design and media arts. It fully integrates computers and other digital technology into the curriculum. This uniquely challenging program invites students to balance their aesthetic sensibility with logical reasoning, formal theories with practical application, and contemporary thought with historical perspective.

**Preparation for the major:** one course each in drawing, color theory, twodimensional and three-dimensional form, digital media/computer design, programming for media arts, letterforms and typography, design history, design culture, and interactivity and media art, and two courses in design history.

Substitutions for lower division requirements will be determined by the department in the summer following admission. Syllabi or other descriptive course documentation may be required for consideration. The Department of Design | Media Arts emphasizes visual, audio, analytical theoretical, and technology mediated work in design and media arts. This is a three-year program which fully integrates computers and other digital technology into the curriculum. This uniquely challenging curriculum invites students to balance their aesthetic sensibility with logical reasoning, formal theories with practical application, and contemporary thought with historical perspective.

Admission to the Design | Media Arts major is very competitive. The most important admission criteria is the supplemental application, which requires a portfolio of creative work. While it may be beneficial to complete the courses listed below as recommended preparation, there is no guarantee they will transfer as exact UCLA equivalents.

Substitutions for lower division requirements will be determined by the department in the summer following admission. Syllabi or other descriptive course documentation may be required for consideration.

	•• UCLA ••	
	Portfolio and Supplemental Requirements: In addition to the general UC Application, applicants must submit a portfolio of creative work by digital upload. Additional fees may apply. Applicants must have a minimum 3.0 GPA at the time of application. Specific guidelines may be found at: www.arts.ucla.edu/prospective-students.	Recommended ( <u>not required</u> ) preparation for the major: one course each in drawing, color theory, two-dimensional and three dimensional form, digital media computer design, programming for media arts, letter forms and typography, design history, design culture, and interactivity and media arts, and two courses in design history. <b>Portfolio and Supplemental</b> <b>Requirements:</b> In addition to the general UC Application, applicants must submit a supplemental application that includes a portfolio of creative work. Additional fees may apply. Applicants must have a cumulative 3.0 GPA at the time of application. Completion of IGETC is not required, but strongly recommended. Specific guidelines may be found at: www.arts.ucla.edu/prospective-students. <b>Design   Media Arts will consider sophomore transfers. For more information about admission criteria for sophomore transfers, please visit www.arts.ucla.edu/prospective-students.</b>
WORLD ARTS AND CULTURES	The Department of World Arts and Culture/Dance is at the forefront of innovative, interdisciplinary, and cross- cultural studies of the arts, offering a	The Department of World Arts and Cultures/Dance is at the forefront of innovative, interdisciplinary, and cross- cultural studies of the arts, offering a

curriculum in which students can explore the vital relationship of the arts and performance to cultural theory and criticism. The World Arts and Cultures major highlights culture and representation as key perspectives for understanding creativity in local and global arenas. Three areas of crosscultural and interdisciplinary study are available: arts activism, critical ethnographies, and visual cultures. These areas define the department commitment to a range of practices, including ethnography, activisms, visual and related expressive arts, documentary and short films, museum and curatorial studies. performance, and other creative perspectives and methods. Courses combine theory and practice and are ground in culturally diverse artistic expressions.

**Preparation for the major:** All preparatory coursework should be completed at UCLA. Substitutions for lower division requirements will be determined by the department in the summer following admission. Syllabi or other descriptive course documentation may be required for consideration. curriculum in which students can explore the vital relationship of the arts and performance to cultural theory and criticism. The World Arts and Cultures major highlights culture and representation as key perspectives for understanding creativity in local and global arenas. Three areas of cross-cultural and interdisciplinary study are available: arts activism, critical ethnographies, and visual cultures. These areas define the department commitment to a range of practices, including ethnography, activisms, visual and related expressive arts, documentary and short films, museum and curatorial studies. performance, and other creative perspectives and methods. Courses combine theory and practice and are ground in culturally diverse artistic expressions.

#### Preparation for the major: All

preparatory coursework will be completed at UCLA. Substitutions for lower division requirements will be determined by the department in the summer following admission. Syllabi or other descriptive course documentation may be required for consideration.

**Supplemental requirements:** Successful applicants must have strong academic preparation and show evidence of involvement in the arts and community that demonstrates interests in varied cultures. In addition to the general UC Application, all students are required to submit a supplemental application and letters of recommendation by digital upload. Additional fees may apply. All applicants must have a minimum 3.0 GPA at the time of the application. Specific guidelines may be found at: www.arts.ucla.edu/prospective-students. Supplemental requirements: Successful applicants must have strong academic preparation and show evidence of involvement in the arts and community that demonstrates interests in varied cultures. In addition to the general UC Application, all applicants are required to submit a supplemental application and letters of recommendation. Additional fees may apply. Applicant must have a cumulative 3.0 GPA at the time of the application. IGETC is not required, but strongly recommended. Specific guidelines may be found at: www.arts.ucla.edu/prospective-students.

World Arts and Cultures will consider sophomore transfers. For more information about admission criteria for sophomore transfers, please visit www.arts.ucla.edu/prospective-students.