The College of Arts and Sciences, established in 1818, is the oldest academic unit in the University. In keeping with the University's mission, the primary objective is to impart a liberal education with a core curriculum designed to educate the whole person. Specifically, the College Curriculum is designed so that graduates are able to make value-centered, ethically-based judgments, are academically competent in their chosen disciplines and prepared to enter a variety of careers, professional and/or graduate schools, and are inspired to be effective leaders for change.

The College offers Bachelor of Arts, Bachelor of Science, Honors Bachelor of Arts, Honors Bachelor of Science, and Certificate Programs and Minors through seventeen departments. The College is certified by the North Central Association of Colleges and Secondary Schools. The Bachelor of Science degrees in Chemistry and Biochemistry are American Chemical Society certified degrees.

**Undergraduate Degrees and Majors Offered**

**Bachelor of Arts Degrees (B.A.)**

- American Studies
- Biology
- Biochemistry
- Chemistry
- Communication
- Communication Sciences and Disorders
- Contract Major*
- Criminal Justice
- Earth & Atmospheric Sciences
  - Environmental Science
  - Geology
  - Meteorology
- Economics
- English
- Fine & Performing Arts
  - Art History
  - Music
  - Studio Art
  - Theatre
- History

**Bachelor of Science Degrees**

- Mathematics and Computer Science
  - Applied Mathematics
  - Computer Science
  - Mathematics for Teachers
  - Pure Mathematics
  - Modern & Classical Languages
    - Classical Humanities
    - French
    - German
    - Greek/Latin Language & Literature
    - Russian
    - Spanish
- Philosophy
- Physics
- Political Science
- Psychology
- Sociology
- Theological Studies
- Women Studies
Bachelor of Science Degree (B.S.)
Biology
Biochemistry
Chemistry
Contract Major*

Earth & Atmospheric Sciences
   Environmental Science
   Geology
   Geophysics
   Meteorology

Cooperative Engineering Program (See Special Programs)
   Chemistry/Engineering
   Mathematics/Engineering
   Physics/Engineering
   Physics

*See Contract Degree Option Section

Certificate Programs
The following Multidisciplinary Certificate Programs, complementing the undergraduate learning experience, are available in:

African American Studies
Business Administration*
Christian Intellectual Tradition
Classical Humanities
Classical Languages
   Greek or Latin
Clinical Lab Science*
Conservation and Biodiversity
Creative and Professional Writing
Film Studies
Forensic Science
Foreign Service
Health Information Management*
Human Resource Management (Psychology Majors Only)*
Italian Studies
Language Proficiency: French, German, Russian, Spanish
Management Information Systems (M.I.S.)*
Marketing (Communication Majors Only)*
Medieval Studies
Political Journalism
Russian/East European Studies
*Certificate programs open to Arts and Sciences students housed in the School of Health Sciences, or the Cook School of Business and Administration. For specific requirements consult catalog information for these schools.

Specific Arts and Sciences Certificate Program requirements appear under "Special Programs."

**Minors**

The following minors are available to students in the College of Arts and Sciences:

- American Studies
- Anthropology
- Biology
- Communication
- Communication Sciences
- Computer Science
- Criminal Justice
- Economics*
- Education*
- English
- Engineering Mathematics
- Environmental Science
- Fine & Performing Arts
- Art History
- Music
- Studio Art
- Theatre
- Geology
- History
- Mathematics
- Meteorology
- Modern & Classical Languages
- French
- German
- Greek
- Latin
- Russian
- Spanish
- Philosophy
- Physics
- Political Science
- Psychology
- Social Work*
- Sociology
- Theological Studies
- Urban Studies*

* Minors open to Arts and Sciences students housed in the Cook School of Business and Administration, the School of Social Work, and the College of Education and Public Service.

For specific requirements consult catalog information for these schools.

See Arts and Sciences department listings for specific requirements for minors.

**Bachelor's Degrees Requirements**

A minimum of 120 hours are required for degree completion. These hours exclude pre-college level courses (numbered below 100), performance based physical education courses, and lower division Military Science courses. More than 120 hours are required for some Bachelor of Science degree programs (see Department listings). Requirements for degree completion include three components:
1. Core Curriculum Requirements: 48 - 63 hours
2. Major Requirements: 36 hours maximum required in a single department unless otherwise listed. In addition, several departments require supplementary courses in related fields.
3. Options for remaining hours:
   a. Certificate Program (hours range from 18 to 30)
   b. Minor (hours range from 15 to 21)
   c. Double Major
   d. Related elective hours approved in consultation with an advisor to assist the student in reaching the minimum of 120 hours required for graduation.

Additional general requirements:
1. To be admitted into a degree program, a student is required to:
   a. have at least a 2.00 cumulative average;
   b. have received a C or better in any prerequisite(s) for upper division courses in the major;
   c. return a completed application for the major to the Dean’s Office. The application and the student’s record are then submitted to the Major Department and upon acceptance, a departmental mentor is assigned.
2. To be admitted into a certificate program or minor, a student is required to:
   a. have at least a 2.00 cumulative average;
   b. have received a C or better in any prerequisite(s) required for upper division courses in the minor or certificate program;
   c. complete an application for the certificate program or minor in the Dean's Office and be accepted by the appropriate department or certificate program director.

To be certified for graduation, a student is required to:
1. have at least a 2.00 cumulative average, a 2.00 average in the major and a 2.00 average in the certificate program, minor, or related elective hours.
2. complete his or her final 30 hours at Saint Louis University. Of the 30 residency hours required, especially for transfer students, a minimum of 9 hours of work must be taken within the Major department. Also, a minimum of 6 hours of work must be taken at Saint Louis University within the remaining hours component of the degree.
3. enroll in a Senior Inquiry, if required by the major department
4. enroll in the departmental 495 or senior residency course (for 0 hours) during the semester in which he or she intends to graduate;
5. complete a degree application in the Dean's Office at the beginning of the semester in which he or she intends to graduate.

Contract Degree Option:
This option is for the benefit of the student who wishes to develop an academic program which is unique and interdisciplinary in nature. Under this option it is the student's responsibility to organize a coherent plan for the degree, and to enlist a faculty advisory committee which will monitor the student's progress.
Requirements for the Contract Option are:
   A. The student should have a cumulative grade point average of 2.7 or better and have
      completed at least one semester's work at Saint Louis University.
   B. This option should normally be selected by the end of the sophomore year (or the
      completion of 60 hours course work). Students who have completed 90 or more hours of
      course work may not elect a contract option.
   C. The student must select at least three full-time, ranked faculty members - no more than two
      of them may be from the same department - to serve on an advisory committee. Faculty
      chosen should represent disciplines within the contract program.
   D. The student must prepare a contract proposal that includes a detailed term-by-term degree
      plan, which must be approved by the advisory committee and the Dean's office.

For further information contact the Dean's office, Verhaeghan Hall, Second Floor.

The Double Major

Many students find it possible to complete the requirements for two majors within the College. The 120 hours required for graduation will remain sufficient, if the core requirements as well as both major requirements can be fulfilled. In addition to fulfilling the general requirements for degree completion, the student seeking a double major must:

1. complete a major application for each department.
2. upon acceptance by each department, be assigned two advisors, one from each department.
3. satisfy requirements in each major.
4. complete a single Senior Inquiry (if required, combining both major areas into one
   coordinated inquiry).

A student enrolled in another school or college of the University may earn a second major within the College of Arts and Sciences by satisfying the core requirements of the degree granting school or college, the major requirements of both fields, and completing the minimum number of hours for degree conferral required by the degree granting school.

Both departments and the student make an agreement to accept and coordinate the potential program at the outset. No department is required to participate in a double major program when it is felt that for some reason a particular combination is impractical.

Requirements for Second Bachelor's Degree Applicants

A student is classified as a second bachelor's degree candidate if he or she is seeking an undergraduate degree and has previously received a baccalaureate degree. The prior bachelor's degree - internal or external- must be balanced in terms of prior course work, which means that students must have at least one approved three-hour college level course from each of the core curriculum areas of Foundations of Discourse, Cultural Diversity, Foreign Language, Fine Arts, Literature, Science, Mathematics, World History, Social Science; and have completed the required Philosophy and the required Theological Studies courses with the last six hours of each taken at Saint Louis University. Deficiencies in these core areas must be removed before awarding of the second Bachelor’s Degree, so as to preserve the unique character of Jesuit Liberal Education.
Requirements for Bachelor's Degree Applicants with prior Associate of Arts degree:
Community college transfers who hold an Associate of Arts degree must have a "balanced AA degree" which means that students, in order to obtain a Bachelor's degree, must have at least one approved three-hour college level course from each of the core curriculum areas of Foundations of Discourse, Cultural Diversity, Foreign Language, Fine Arts, Literature, Science, Mathematics, World History, Social Science, and have completed the required Philosophy and the required Theology courses, with the last six hours of Philosophy and the last six hours of Theology taken at Saint Louis University. Deficiencies in these core areas must be removed before awarding of the Bachelor's degree, so as to preserve the unique character of Jesuit Liberal Education. The maximum number of hours accepted in transfer with an AA degree, from all sources, is 64.

Core Curriculum Requirements
To be a Catholic, Jesuit University is to foster the development of "women and men for others," people who are dedicated to the common good and especially to social justice. The mission of the Core Curriculum of the College of Arts and Sciences of Saint Louis University is to foster the development of effective leaders fully prepared to contribute to society. The mission is accomplished by a curriculum which: develops a broad understanding of ethical and religious principles and their relationship to the moral challenges of everyday life, provides students with practical knowledge and theoretical frameworks to understand and transform the world and address forthrightly the moral questions confronting today's society, develops sensitivity to the points of view of the oppressed and the marginalized, strives to reduce ethnocentric biases and encourages a scholarly perspective on cross-cultural issues, exposes students to different disciplines and their variety of approaches to the quest for knowledge, provides the tools for further learning through courses in the humanities, social sciences, natural science, and mathematics, enhances effective communication through courses in composition and foreign language, increases awareness of the imaginative, artistic, and affective capacities of humankind, and encourages an understanding of past traditions as well as an orientation toward present social problems.

Such a Core equips students with the intellectual tools so that they can begin to understand the present and prepare for the future.

The requirements for a Bachelor of Arts degree are:

<table>
<thead>
<tr>
<th>Component:</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundations of Discourse</td>
<td>3</td>
</tr>
<tr>
<td>Cultural Diversity</td>
<td>3*</td>
</tr>
<tr>
<td>Modern &amp; Classical Language</td>
<td>0-9</td>
</tr>
<tr>
<td>Fine &amp; Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>6</td>
</tr>
<tr>
<td>Science</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>World History</td>
<td>6</td>
</tr>
<tr>
<td>Philosophy</td>
<td>9</td>
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<tr>
<td>Theology</td>
<td>9</td>
</tr>
<tr>
<td>Social Science</td>
<td>6</td>
</tr>
<tr>
<td>Total:</td>
<td>54-63</td>
</tr>
</tbody>
</table>
* 54-60 hours are required if the Cultural Diversity requirement is met by a course which also satisfies another Core requirement.

Courses that meet both requirements of the Core Curriculum and a department's or program's requirement for the major, minor, or certificate may be regarded as fulfilling both requirements simultaneously, provided departmental and program policies are preserved. For example, Communication majors may not take Communication courses to fulfill the Social Science core requirement and English majors may not use core literature courses to satisfy the major. Neither cross-listed courses, nor courses meeting both a Core Curriculum and a department's or program's requirement for the major, minor, or certificate are counted twice for degree credit.

Foundations of Discourse Requirement
All students must complete ENGL190: Advanced Strategies of Rhetoric and Research (3). Students needing prerequisite work in writing skills, as determined by entering test scores, will be required to take ENGL150: Process of Composition (3), and perhaps ENGL090: Introduction to Writing (3). ENGL150 serves as elective credit, but ENGL090 does not count toward graduation.

Students in the Honors Program may satisfy this requirement by completing HR211: Advanced Composition (3). Non-native speakers of English may substitute, ESL150, The Process of Composition for Foreign Students (3) for ENGL150, and ESL190 Advanced Strategies of Rhetoric and Research for Foreign Students (3) for ENGL190.

Cultural Diversity Requirement
All students must complete one approved cultural diversity course. This requirement may simultaneously satisfy another core curriculum requirement, a requirement for a major, minor, or certificate program, or an elective course. The list of approved cultural diversity courses is available in the Departmental Offices, the Dean's Office, and on-line through the College of Arts and Sciences' website. [http://www.slu.edu/colleges/AS/core.html](http://www.slu.edu/colleges/AS/core.html)

Modern & Classical Languages Requirement
This requirement will be satisfied through achievement of an intermediate level of proficiency in a language other than English. For most students, this requirement will normally be satisfied through completion of three semesters of study: XX110 (3), XX115 (3), and XX210 (3).

Students majoring in the Natural Sciences (Biology, Chemistry, Geology, Geophysics, Meteorology or Physics) have the option of taking the third semester of a language (XX210) or an approved scientifically oriented computer language course, such as CSCI 111,120,125,140 or 145.

The foreign language requirement may also be satisfied by a minimum of one semester's study in a foreign country at a College/University where a language other than English is employed in courses taken. Appropriate academic credit will be accepted in transfer.
**Fine & Performing Arts Requirement**

Students must satisfy this requirement through taking one or more of the following courses (for a total of 3 hours). (MUSC 141 and 341 cannot be taken in the same semester). All courses are 3 hours except where noted:

THR100: Approaching the Arts: Theatre, THR150: Intro to Theatre, THR205: Intro to 3D Design, THR240: Page to Stage, THR251: Acting 1, THR263: Modern Movement/Modern Dance, THR264: Introduction to Dance: Ballet, Modern, and Jazz;


Only Fine and Performing Arts majors are exempted from taking one of the above options or CMM140.

**Literature Requirement**

All students must take two courses to satisfy the literature requirement. The first course must be chosen from any 200-level English literature course. The second course may be chosen from either any 300 or 400-level English literature course (with the exception of ENGL300-309, 400-409 and 410-412), or an upper division foreign literature course taught in the original language, or an upper division Greek or Latin literature course with readings in the original language.

Foreign students may satisfy this requirement by either taking the two courses in the English department, or ESL211: Introduction to Literature for Foreign Students, plus one course in the English Department or an upper division foreign language literature course.
**Science Requirement**
All students must complete six hours of course work in the Natural Sciences. This requirement can be fulfilled by any two 3-hour courses in the Natural Sciences: Biology, Chemistry, Geology, Geophysics, Meteorology or Physics or SOC341: Physical Anthropology. SOC341, Physical Anthropology, cannot satisfy both a social science and a natural science requirement of the core curriculum.

**Mathematics Requirement**
All students must earn at least 3 hours in a mathematics course numbered MATH120 or higher. This excludes MATH181: Informal Geometry.

**World History Requirement**
All students must complete two courses: HIST111: Origins of the Modern World to 1500 (3), and HIST112: Origins of the Modern World 1500 to the Present (3). Students in the Honors Program may satisfy this requirement by taking HR241 and HR242.

**Philosophy Requirement**
All students are required to take a three course sequence in Philosophy. The first course is PHIL105: Intro Phi: Self & Reality (3). The second course is PHIL205: Ethics (3). Students may then select any 300- or 400-level philosophy course (3) in which philosophical insight is brought to bear on one of five distinct academic areas: the humanities, the natural and mathematical sciences, the social sciences, the professions or theology.

**Theology Requirement**
All students are required to take a three course sequence in Theology. THEO100 (3) introduces the academic discipline of theology and its basic components. The second course, chosen from the 200-level (3), builds on the foundation course and presents a choice of six areas or specialties in theology. This, in turn, is followed by a 300-level (3) course dealing with concrete, practical, or interdisciplinary applications of theology.

**Social Science Requirement**
All students must complete six hours of course work in the Social Sciences. This requirement can be fulfilled by two three-hour courses in the Social Sciences from: Communication (CMM100, CMM200, CMM280 only), Communication Sciences Disorders (CSDI100, CSDI470 only), Economics, Education (EDF493, EDI462, EDSP431 only), Political Science, Psychology, Public Policy Studies (except for field service), Social Work (SWRK100, SWRK225, SWRK302, SWRK327 only), or Sociology. Physical Anthropology (SOC341) cannot satisfy both a social science and a natural science requirement of the core curriculum.

Courses that meet both requirements of the Core Curriculum and a department's or program's requirement for the major, minor, or certificate may be regarded as fulfilling both requirements simultaneously, provided departmental and program policies are preserved. For example, Communication majors may not take Communication courses to fulfill the Social Science core requirement and English majors may not use core literature courses to satisfy the major. Neither cross-listed courses, nor courses meeting both a Core Curriculum and a department's or program's requirement for the major, minor or certificate are counted twice for degree credit.
The requirements for a Bachelor of Science degree are:

<table>
<thead>
<tr>
<th>Component</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundations of Discourse</td>
<td>3</td>
</tr>
<tr>
<td>Cultural Diversity</td>
<td>3*</td>
</tr>
<tr>
<td>Modern and Classical Languages</td>
<td>0-6</td>
</tr>
<tr>
<td>Fine &amp; Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Science</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics</td>
<td>4-7</td>
</tr>
<tr>
<td>World History</td>
<td>6</td>
</tr>
<tr>
<td>Philosophy</td>
<td>6</td>
</tr>
<tr>
<td>Theology</td>
<td>6</td>
</tr>
<tr>
<td>Social Science</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48-57</strong></td>
</tr>
</tbody>
</table>

* 45-54 hours are required if the Cultural Diversity requirement is met by a course which also satisfies another Core requirement.

Courses that meet both requirements of the Core Curriculum and a department's or program's requirement for the major, minor, or certificate may be regarded as fulfilling both requirements simultaneously, provided departmental and program policies are preserved. For example, Communication majors may not take Communication courses to fulfill the Social Science core requirement and English majors may not use core literature courses to satisfy the major. Neither cross-listed courses, nor courses meeting both a Core Curriculum and a department's or program's requirement for the major, minor, or certificate are counted twice for degree credit.

**Foundations of Discourse Requirement**

ENGL190: Advanced Strategies of Rhetoric & Research (or ESL190).

NOTE: ENGL150: Process of Composition (or ESL150) may be a prerequisite for ENGL190.

**Foreign Language Requirement**

0-6 hours: Proficiency through second course level (115) in a single language, generally by completion of two 3-hour courses in a single language: GK, LATN, FREN, GR, HIND, ITAL, RUSS, SPAN, CHIN. The foreign language requirement may also be satisfied by a minimum of one semester's study in a foreign country at a College/University where a language other than English is employed in courses taken.
Cultural Diversity Requirement
All students must complete one approved cultural diversity course. This requirement may simultaneously satisfy another core curriculum requirement, a requirement for a major, minor, or certificate program, or an elective course. The list of approved cultural diversity courses is available in the Departmental Offices, the Dean's Office, and on-line through the College of Arts and Sciences' website. http://www.slu.edu/colleges/AS/core.html

Fine & Performing Arts Requirement
Students must satisfy this requirement through taking one or more of the following courses (for a total of 3 hours). (MUSC 141 and 341 cannot be taken in the same semester). All courses are 3 hours except where noted:
THR100: Approaching the Arts: Theatre, THR150: Intro to Theatre, THR205: Intro to 3D Design, THR240: Page to Stage, THR251: Acting 1, THR263: Modern Movement/Modern Dance, THR264: Introduction to Dance: Ballet, Modern, and Jazz;


Only Fine and Performing Arts majors are exempted from taking one of the above options or CMM140.

Literature Requirement
A 3-hour course chosen from any 300- or 400-level literature course EXCEPT ENGL 300-309, 400-409 and 410-412 or an upper division foreign literature course taught in the original language, or an upper division Greek or Latin literature course with readings in the original language. Foreign students may satisfy this requirement by either taking a course in the English department, or an upper division foreign language literature course.
Science Requirement
8 hours in a single science: BIOL, CHEM, CSCI, EAS, or PHYS, outside the department offering the B.S. degree.

Mathematics Requirement
4-7 hours: Through Calculus I (MATH 142) or higher level.

World History Requirement
All students must complete two courses: HIST111: Origins of the Modern World to 1500 (3), and HIST112: Origins of the Modern World 1500 to the Present (3). Students in the Honors Program may satisfy this requirement by taking HR241 and HR242.

Philosophy Requirement
Two course sequence including PHIL205: Ethics. Students may take PHIL 105 or an upper division philosophy as their second course.

Theology Requirement
Two course sequence: THEO100: Theological Foundations and a 200-level course.

Social Science Requirement
All students must complete six hours of course work in the Social Sciences. This requirement can be fulfilled by two three-hour courses in the Social Sciences from: Communication (CMM100, CMM200, CMM280) only, Communication Sciences Disorders (CSD100, CSDI470 only), Economics, Education (EDF493, EDI462, EDS431 only), Political Science, Psychology, Public Policy Studies (except for field service), Social Work (SWRK100, SWRK225, SWRK302, SWRK327 only) or Sociology and Criminal Justice.

Courses that meet both requirements of the Core Curriculum and a department's or program's requirement for the major, minor, or certificate may be regarded as fulfilling both requirements simultaneously, provided departmental and program policies are preserved. For example, Communication majors may not take Communication courses to fulfill the Social Science core requirement and English majors may not use core literature courses to satisfy the major. Neither cross-listed courses, nor courses meeting both a Core Curriculum and a department's or program's requirement for the major, minor or certificate are counted twice for degree credit.

SPECIAL PROGRAMS

Dual Degree Program in Engineering with Washington University
Double Degree and Double Major Programs in Engineering with Parks College

A student may earn a degree in the College of Arts and Sciences and an engineering degree in Parks College of Saint Louis University by satisfying all of the requirements of both degrees, including the core requirements of both colleges and by completing at least 150 credit hours of course work. To earn a double major, the student must satisfy the core requirements of only one college but the major requirements of both fields, completing at least 120 hours. These programs may combine any approved degree or major in the College of Arts and Sciences with aerospace
engineering, electrical engineering, or mechanical engineering at Parks College. The student should consult his or her advisor to inquire about these programs.

In the Dual Degree Engineering Program with Washington University, students normally attend the College of Arts and Sciences for three years, followed by two years at the Washington University School of Engineering and Applied Science. This program permits the student to earn a Bachelor of Arts degree through the College of Arts and Sciences at Saint Louis University and a Bachelor of Science degree in an area of engineering from Washington University.

For the Dual Degree Program with Washington University, during the student's three years at Saint Louis University, the following requirements must be met:

1. The entrance requirements for Washington University:
   At least 60 semester hours of transferable college credit with a minimum average grade of "B" both overall and in science and mathematics. Courses with grades below "C" do not transfer. These must include:
   
   a) Calculus through differential equations: MATH 142, MATH 143, MATH 244, MATH 351;
   b) One year of physics employing calculus: PHYS 151, PHYS 152, PHYS 153, PHYS 154;
   c) One year of chemistry with laboratory: CHEM 163, CHEM164, CHEM 165, CHEM 166
   d) One course in computer programming such as CSCI 145; 18 hours minimum in humanities and social sciences, including nine hours in one field with one upper division course; no more than 9 hours of performing arts or skills courses may be used;
   e) Ability to communicate effectively in written form, demonstrated by ENGL190, examination scores or college certification.
   f) For chemical engineering, a one-year course in organic chemistry: CHEM 342 through CHEM 345

2. The Core Curriculum Requirements of the College of Arts and Sciences.

3. The requirements of the major department.

Students in this program select one department of The College of Arts and Sciences as their major department; typically Physics, Chemistry or Mathematics is chosen. Each department has its own requirements which must be fulfilled.
In order to receive the B.A. degree from Saint Louis University upon completion of the degree program at Washington University, the student must register at Saint Louis University for Senior Residency (495) in the appropriate department. In addition, the student must apply for graduation in the Office of The College of Arts and Sciences at Saint Louis University at the beginning of the final semester at Washington University.

For detailed curricula, see "Chemistry," "Mathematics," or "Physics," later in this Catalog, or contact Dr. William D. Thacker, in the Physics Department.