

LMU | LA
Loyola Marymount
University

Frank R. Seaver College of Science and Engineering



Strategic Plan

2013-2020

Core Commitments

The plan for the Seaver College of Science and Engineering is grounded in our Catholic, Jesuit and Marymount traditions with an eye toward the future. We are a student-centered college committed to the education of the whole person. Our approach consists of the systematic integration of curricular, experiential learning, and co-curricular activities that help students develop the intellectual and practical skills for professional success and a commitment to personal and social responsibility.

As a college community we are committed to:

- A student-centered educational philosophy grounded in *cura personalis* and *magis*,
- Maintaining high academic standards, modern curricula, and advanced pedagogical techniques,
- Excellence in research and scholarship,
- The development of our faculty and staff, and
- A collegial environment marked by open communication, shared governance, and collaboration.



Vision

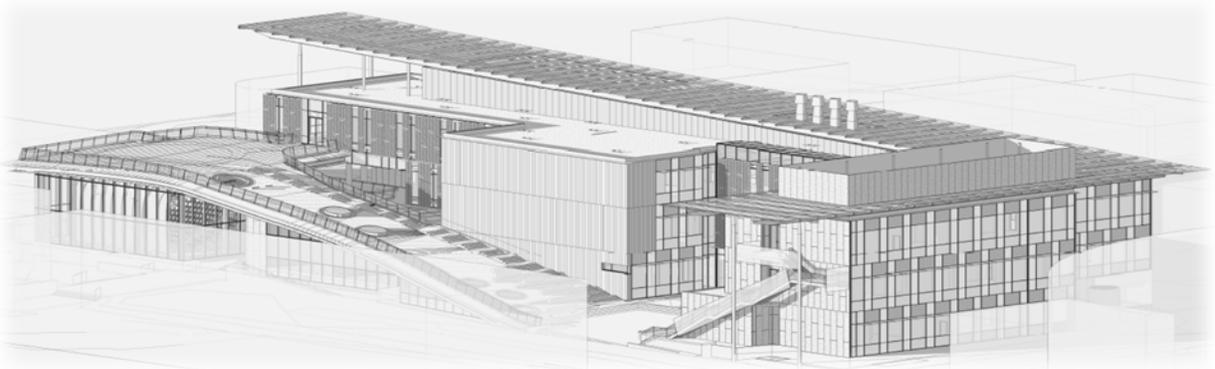
As an integral part of a comprehensive Catholic university, LMU's Seaver College of Science and Engineering provides a student-centered educational experience in an intellectually vibrant and socially just environment. Graduates develop intellectual and practical skills that enable life-long learning, post-graduation success, and an appreciation for personal and social responsibilities. Our faculty are renowned for scholarly activities and a high level of engagement with students, leading to strong, long-lasting relationships.

Mission

The Frank R. Seaver College of Science and Engineering provides outstanding student-centered disciplinary and interdisciplinary educational and research experiences in science, engineering, and mathematics within a comprehensive Catholic university emphasizing intellectual vibrancy, excellence, citizenship, service, and social justice.

Values

Seaver College defines itself by its dedication to serving students through transformative teaching, hands-on mentoring, and opportunities for research, service, and community engagement. The college values a community of students, faculty, and staff, diverse in background as well as outlook, working together to serve both the university and society at large. The college's commitment to the Jesuit principle of whole-person education creates a stimulating environment that fosters creativity leading to innovation in the discovery of truth and problem solving for the global benefit of humanity.



Themes

Our Strategic Plan for 2013-2020 is organized around four themes that tie directly into the university's strategic plan. These themes are: (1) Transformative Undergraduate Education, (2) Excellence in Graduate Education, (3) Faculty Excellence, and (4) Strengthening our College. Within these themes, three major ideas emerge. First, all students will participate in a transformative learning experience that goes beyond the classroom, engages with the larger community, connects to curricular activities. Second, faculty evaluation and reward processes will be redesigned to align with broader notions of scholarly and instructional activities commensurate with our vision. Third, strong graduate programs will be fully integrated into the College and the community.

Theme 1: Transformative Undergraduate Education

Seaver College provides rigorous and innovative curricular, co-curricular, and experiential learning experiences to fully support the coordinated development of our students for professional and personal success. To accomplish this we will:

- 1 Conduct a comprehensive review, evaluation, and prioritization of all undergraduate programs.
- 2 Enhance the quality and distinctiveness of our academic programs that increases student learning.
- 3 Ensure all undergraduate students engage in experiential learning activities that are integrated into program curricula.
- 4 Partner with Student Affairs to provide and encourage student participation in meaningful co-curricular activities.
- 5 Attract, retain, advise, and mentor a diverse student body and prepare them for postgraduate success.

Theme 2: Excellence in Graduate Education

Seaver College will develop and strengthen signature graduate programs to create leaders who can make a significant impact on the major issues facing our society and the world in which we live. To accomplish this we will:

- 6 Develop a comprehensive vision for graduate education within the College.
- 7 Conduct a comprehensive review, evaluation, and prioritization of all graduate programs.
- 8 Strengthen, restructure, or eliminate current graduate programs based on the comprehensive vision.
- 9 Develop new and innovative graduate programs aligned with the vision, as appropriate.

Theme 3: Faculty Excellence

Seaver College will recruit and retain a strong and engaged faculty committed to excellence in teaching, scholarship, and service, able to guide transformative experiences for students in the discovery, application, and integration of knowledge. To accomplish this we will:

- 10 Design and implement formative assessment strategies that assist our faculty to excel as teacher-scholars.
- 11 Support faculty in obtaining resources to facilitate teacher-scholar activities.
- 12 Assess and revise current tenure and promotion guidelines, and faculty service report structures, to better recognize and reward teacher-scholar activities.
- 13 Recruit, support, and reward faculty who seek to undertake the teacher-scholar role in ways that are appropriate for and supportive of our mission.

Theme 4: Strengthening Our College

Seaver College is widely recognized for both technological excellence and social justice within the context of a Catholic, Jesuit and Marymount culture, with the infrastructure required to support efforts to increase visibility and excellence. To accomplish this we will:

- 14 Improve and enhance the College's infrastructure to successfully implement this strategic plan.
- 15 Increase our engagement with the local community and commitment to global citizenship.
- 16 Increase opportunities to interface the Catholic Intellectual Tradition with science and engineering.

Implementation

The College's strategic plan is bold and ambitious. Our 16 action items set high goals and expectations for our students and ourselves. Our plan sets the overarching direction for the College, while being dynamic and flexible enough to adjust to current conditions. The plan will take seven years to fully implement and requires the active participation and collaboration from all faculty and staff in the College and our many colleagues across campus.

We will use existing college and departmental committees where possible and create ad hoc committees where necessary. We are mindful of the many contributions our faculty and staff currently make, but also understand that shared governance requires active participation from all in the college.

What follows are detailed plans for our action items. These detailed plans assign primary and collaborative responsibilities, timelines, cost, outcomes, and metrics for each action item.

Appendix: Detailed Action Plans

Action 1	Conduct a comprehensive review, evaluation, and prioritization of all undergraduate programs.
SCSE Theme	1. Transformative Undergraduate Education
LMU Strategic Theme	1. Excellence in Transformative Undergraduate Education, and 6. Promoting Competitiveness and Accountability
Primary Responsibility	Departments, College faculty, Dean
Collaborators	Associate Dean for Undergraduate Studies, Research Associates
Timeline	AY 2013-2015 (year 1: process and metrics, year 2: conduct review and prioritization)
Cost	Minimal
Outcomes	<ul style="list-style-type: none"> • Process for review and prioritization • Current assessment/evaluation of the overall state of each undergraduate program in the College • Prioritization of the undergraduate programs
Metrics	N/A

Action 2	Enhance the quality and distinctiveness of our academic programs while increasing student learning.
SCSE Theme	1. Transformative Undergraduate Education
LMU Strategic Theme	1. Excellence in Transformative Undergraduate Education (Objective 1,3)
Primary Responsibility	Departments, College faculty, Dean, Associate Dean for Undergraduate Studies
Collaborators	Center for Teaching Excellence, Center for Student Success, ITA
Timeline	Ongoing
Cost	TBD
Outcomes	<ul style="list-style-type: none"> • Strong, distinctive academic programs • Enhanced student learning • Effective pedagogies developed and implemented
Metrics	<ul style="list-style-type: none"> • Assess support and student learning • Resource allotment by program • Relevant content assessment • Number of courses involving experiential learning • Post-graduation placement

Action 3	Ensure all undergraduate students engage in experiential learning activities that are integrated into program curricula.
SCSE Theme	1. Transformative Undergraduate Education
LMU Strategic Theme	1. Excellence in Transformative Undergraduate Education (Objectives 1, 3) and 4. Commitment to Local and Global Citizenship (Objectives 1 and 2)
Primary Responsibility	Departmental faculty, Director of Student Engagement College Curriculum Committee
Collaborators	Associate Dean for Undergraduate Studies, Center for Student Success, Center for Service and Action, Study Abroad
Timeline	AY 2014-2020
Cost	TBD
Outcomes	<ul style="list-style-type: none"> • Experiential learning activities are well-defined and integrated into program curricula. • Student participation in an experiential learning activity.
Metrics	<ul style="list-style-type: none"> • Number of courses/faculty involved in involving experiential learning activities • Percent of students who graduate with an experiential learning activity.

Action 4	Partner with Student Affairs to provide and encourage student participation in meaningful co-curricular activities
SCSE Theme	1. Transformative Undergraduate Education
LMU Strategic Theme	1. Excellence in Transformative Undergraduate Education (Objective 3), and 4. Commitment to Local and Global Citizenship (Objectives 1 and 2)
Primary Responsibility	Director of Student Engagement Center for Student Success
Collaborators	Division of Student Affairs, college faculty
Timeline	Ongoing
Cost	TBD
Outcomes	<ul style="list-style-type: none"> Increased collaboration, opportunities, and participation in meaningful co-curricular activities
Metrics	<ul style="list-style-type: none"> Number of co-curricular activities relevant for Seaver students Student enrollment in co-curricular activities

Action 5	Attract, retain, advise, and mentor a diverse student body and prepare them for postgraduate success
SCSE Theme	1. Transformative Undergraduate Education
LMU Strategic Theme	1. Excellence in Transformative Undergraduate Education (Objectives 2, 3, and 4)
Primary Responsibility	Department faculty, Department Chairs, Dean, Associate Dean for Undergraduate Studies
Collaborators	The Center for Student Success, Freshman Advising Committee, Academic Resource Center, Admissions, Financial Aid, FYE, CDS
Timeline	Ongoing
Cost	TDB
Outcomes	<ul style="list-style-type: none"> • Higher retention rates within the college • Higher four-year and six-year graduation rates • A more diverse student body • Greater post-graduation success • An academically stronger student body
Metrics	<ul style="list-style-type: none"> • Recruitment profile (GPA, SAT, ACT, diversity of incoming class) • Retention data (transfers, change of majors within and outside of the college, enrollment in/out and university withdrawal). • Student participation in the activities and services offered by the Center for Student Success (workshops, seminars) • Student participation in department-sponsored activities surrounding issues of undergraduate support and development • Student perception (course evaluations, surveys, exit interviews). • Post-graduation survey (First Destination Survey)

Action 6	Develop a comprehensive vision for graduate education within the College
SCSE Theme	2. Excellence in Graduate Education
LMU Strategic Theme	2. Leadership in Graduate Education
Primary Responsibility	Graduate Program Faculty, Graduate Program Department Chairs, Graduate Program Directors, Associate Dean for Faculty Development and Research,
Collaborators	University Graduate Division
Timeline	AY 2013-2014
Cost	Minimal
Outcomes	<ul style="list-style-type: none"> • College vision statement for graduate education • Department vision statements for graduate programs, if applicable
Metrics	<ul style="list-style-type: none"> • Program-specific and college-wide discussions of guiding principles for vision statement development • College approval of graduate education vision statement • Departmental approval of program-specific vision statements

Action 7	Conduct a comprehensive review, evaluation, and prioritization of all graduate programs
SCSE Theme	2. Excellence in Graduate Education
LMU Strategic Theme	2. Leadership in Graduate Education, and 6. Promoting Competitiveness and Accountability
Primary Responsibility	Graduate Program/Department Faculty
Collaborators	Associate Dean for Faculty Development and Research, Research Associate
Timeline	AY 2014-2015
Cost	N/A
Outcomes	<ul style="list-style-type: none"> • A process for review and evaluation of graduate programs • Current assessment of strengths, weaknesses, and opportunities of existing graduate programs • Prioritization of the graduate programs
Metrics	N/A

Action 8	Strengthen, restructure, or eliminate current graduate programs based on the comprehensive vision
SCSE Theme	2. Excellence in Graduate Education
LMU Strategic Theme	2. Leadership in Graduate Education, and 6. Promoting Competitiveness and Accountability
Primary Responsibility	College faculty, Dean
Collaborators	Associate Dean for Faculty Development and Research, Graduate Directors, Department Chairs, and faculty from other colleges as appropriate
Timeline	AY 2016-2020
Cost	TBD
Outcomes	<ul style="list-style-type: none"> ● A set of programs recognized locally and regionally as innovative and applicable to the needs of 21st century graduate students ● Revised goals, objectives, and learning outcomes ● Increased opportunities for graduate research ● Increased relationships with local organizations and industry for program enhancement ● Clear policies and guidelines for graduate program assessment and administration
Metrics	<ul style="list-style-type: none"> ● Development of comprehensive policies for graduate programs assessment and administration ● Number of programs restructured or eliminated ● Report on student recruitment, retention and success ● Number of full time faculty in each program that are significantly involved in that program as appropriate ● Number of graduate students actively involved in research

Action 9	Develop new and innovative graduate programs aligned with the vision, as appropriate
SCSE Theme	2. Excellence in Graduate Education
LMU Strategic Theme	2. Leadership in Graduate Education
Primary Responsibility	College faculty
Collaborators	Faculty in other colleges as appropriate, University Graduate Division
Timeline	AY2013-2020
Cost	TBD
Outcomes	<ul style="list-style-type: none"> ● New and innovative programs recognized locally and regionally as innovative and applicable to the needs of 21st century graduate students ● Increased opportunities for graduate research in new programs
Metrics	<ul style="list-style-type: none"> ● Number of new programs created ● Number of majors in the new programs ● Post-graduation placement

Action 10	Design and implement formative assessment strategies that assist our faculty to excel as teacher-scholars
SCSE Theme	3: Faculty Excellence
LMU Strategic Theme	3. Promoting the Teacher-Scholar Model
Primary Responsibility	Departmental faculty
Collaborators	Deans, Associate Deans CTE, Office of Faculty Affairs
Timeline	AY 2013-15
Cost	TBD
Outcomes	<ul style="list-style-type: none"> ● Identification of teacher-scholar activities (2013-14). ● Creation of rubrics for self-assessment of teacher-scholar activities (2014-15).
Metrics	<ul style="list-style-type: none"> ● Number and quality of workshops/seminars held (2014-15). ● Workshop attendance (# faculty). ● Number of mentoring relationships. ● Faculty survey results on assessment measures.

Action 11	Support faculty in obtaining resources to facilitate teacher-scholar activities.
SCSE Theme	3. Faculty Excellence
LMU Strategic Theme	3. Promoting the Teacher-Scholar Model
Primary Responsibility	Departmental faculty
Collaborators	Dean, Associate Deans, Provost, ORSP, CSA, ITS, Center for Student Success
Timeline	AY 2013-18
Cost	TBD
Outcomes	<ul style="list-style-type: none"> ● Identification of appropriate external workshops for support (2013-14). ● Identification of technological needs for the teacher-scholar (2013-14). ● Acquisition of appropriate technology. ● Alignment of internal grant process with teacher-scholar model (2013-15).
Metrics	<ul style="list-style-type: none"> ● Internal grant dollars supporting teacher-scholar model. ● Number of projects receiving support from SCSE. ● Number of faculty sent to external workshops/conferences. ● Number of external grants. ● External grant money. ● Number of partnerships with cross-disciplinary and external collaborators.

Action 12	Assess and revise current tenure and promotion guidelines and faculty service report structures, to better recognize and reward teacher-scholar activities.
SCSE Theme	3: Faculty Excellence
LMU Strategic Theme	3. Promoting the Teacher-Scholar Model
Primary Responsibility	Department and College faculty; Dean and Associate Deans
Collaborators	Deans of other colleges, Provost and Executive Vice President, Faculty Senate
Timeline	2014-17
Cost	Minimal
Outcomes	<ul style="list-style-type: none"> ● Alignment of departmental documents for tenure and promotion with teacher-scholar model (including activities). ● Creation of rubrics for summative assessment of teacher-scholar activities (2014-2016). ● Creation of new faculty service report designed to assess and compensate teacher-scholar activities (2015-2016).
Metrics	<ul style="list-style-type: none"> ● University-wide acceptance of assessment methodologies for teacher-scholar activities in promotion and tenure process.

Action 13	Recruit, support, and reward faculty who seek to undertake the teacher-scholar role.
SCSE Theme	3. Faculty Excellence
LMU Strategic Theme	3. Promoting the Teacher-Scholar Model
Primary Responsibility	Departmental faculty, Dean
Collaborators	Associate Deans, Provost and Executive Vice President
Timeline	2016-18
Cost	TBD
Outcomes	<ul style="list-style-type: none"> • Attract faculty to join the college who are teacher-scholars and support the university mission. • College based selection of mentors for new faculty to assist them in becoming teacher-scholars. • A process that better rewards faculty who fully engage in teacher-scholar activities
Metrics	<ul style="list-style-type: none"> • Surveys of new and current faculty on perceptions of reward system supporting teacher-scholar activities. • Analysis of merit compensation and tenure and promotion results

Action 14	Improve and enhance the College's infrastructure to successfully implement this strategic plan.
SCSE Theme	4: Strengthening Our College
LMU Strategic Theme	1. Excellence in Transformative Undergraduate Education, 2. Leadership in Graduate Education, 3. Promoting the Teacher-Scholar Model,
Primary Responsibility	Dean
Collaborators	Director of Development, Associate Deans, University Relations, College faculty
Timeline	Ongoing
Cost	Millions
Outcomes	<ul style="list-style-type: none"> ● Renovation of Seaver Hall to house the Physics and Math Departments and additional classrooms. ● Access to the necessary equipment and space to conduct research and run our laboratories
Metrics	<ul style="list-style-type: none"> ● Dollars raised to support the college ● New equipment obtained to support teaching/research ● New and/or renovated space needs to support teaching/research

Action 15	Increase our engagement with the local community and our commitment to global citizenship.
SCSE Theme	4: Strengthening Our College
LMU Strategic Theme	1. Excellence in Transformative Undergraduate Education, 2. Leadership in Graduate Education, 3. Promoting the Teacher-Scholar Model, 4. Commitment to Local and Global Citizenship, and 5. Advancing LMU's Role as a Premier Catholic University in the Jesuit and Marymount Traditions
Primary Responsibility	College faculty, Dean
Collaborators	Associate Deans, Center for Student Success, Career Development Services, Center for Service in Action, Campus Ministry, Study Abroad, International Students and Scholars
Timeline	Ongoing
Cost	TBD
Outcomes	<ul style="list-style-type: none"> • Increase SCSE presence in the local community • Increased participation in global issues and affairs • Increased number of students who engage in post-graduation service
Metrics	<ul style="list-style-type: none"> • Number of student and faculty who participate in study abroad opportunities • Number of SCSE community-based learning courses • Number of students and faculty who participate in Alternative Break experiences. • Number of CSE students who participate in a discipline-specific service trip • Number of CSE students who completed an off-campus internship

Action 16	Increase opportunities to interface the Catholic Intellectual Tradition with science and engineering
SCSE Theme	4: Strengthening Our College
LMU Strategic Theme	5. Advancing LMU's Role as a Premier Catholic University in the Jesuit and Marymount Traditions
Primary Responsibility	College faculty
Collaborators	The Academy for Catholic Thought and Imagination
Timeline	
Cost	TBD
Outcomes	<ul style="list-style-type: none"> • Strong College partnership with the Academy for Catholic Thought and Imagination • Seminars and workshops that deal with science, engineering, and the Catholic Intellectual Tradition • An increased understanding of what the Catholic Intellectual Tradition is and its importance.
Metrics	<ul style="list-style-type: none"> • Number of seminars and workshops held • The number of students, faculty, and staff who participate in the seminars and workshops.