

Undergraduate Research Activity Report for the University of Louisiana Lafayette: Conducted by Student Center for Research, Creativity, and Scholarship (SCRCS)

The impetus for this report is to establish a baseline measure of undergraduate research (UGR) and creative or scholarly activity (CSA) that are collectively called student research experiences (SRE) at the University of Louisiana at Lafayette. The Quality Enhancement Plan (QEP) calls for SCRCS, on behalf of the University, to measure program outputs and outcomes based on expected increases (targets). At the end of each academic year, SCRCS will share the results of the previous year's activities with deans, department heads, and the UL Lafayette community. This is the first report; therefore, it captures current activities and some historic activities. The report reflects activity from January 2015 to December 2021.

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I. What was reported in the QEP documents?

The QEP report documents the impact UL Lafayette's ADVANCE program will have on students and how that impact will affect the strategic plan. It also offers the following evidence about the amount of undergraduate research or creative and scholarly projects (called student research experiences (SRE/SREs) throughout this paper) that was occurring when the document was written. This information is relevant to review in this report.

"UL Lafayette administers the National Survey of Student Engagement (NSSE) every two years to gauge the University's freshman and senior students' perceptions about their undergraduate experience. NSSE reports on high-impact practices touch on two areas directly related to student research: co-curricular research activities outside of course requirements and curricular research activities tied to a culminating experience. Results from the NSSE indicate that undergraduates at UL Lafayette perceive that they are not getting enough opportunities to conduct research with faculty members."

Table one: Responses from first-year students on NSSE questionnaire (2016 & 2018)

Question	Year	UL	Carnegie Class
Plan to work on a research project with a faculty member outside of course program requirements	2016	7%	5%
	2018	5%	4%

These percentages are comparable to the University’s peers in Carnegie classification.

Table two: Responses from senior students on NSSE questionnaire (2016 & 2018)

Question	Year	UL	Carnegie Class
Worked on a research project with a faculty member outside of a course or program requirements	2016	19%	25%
	2018	18%	22%
Worked on a culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.)	2016	34%	45%
	2018	36%	42%

The responses from seniors, however, are statistically behind the University’s Carnegie classification peers. UL Lafayette administered an Undergraduate Exit Survey for the 2017/2018 school year. 3,095 graduating seniors were surveyed and 1476 responded (47.7%). Table three identifies the percentage of respondents who reported they were able to work on research projects or complete culminating senior experiences.

“The 2017-2018 Undergraduate Senior Exit Survey results show that only 8.3% (shaded on table three) of students report that they “work[ed] with faculty member on research project,” lower than the 18% reported on the 2018 NSSE. Similarly, only 17.8% (shaded on table three) of students reported completing a “culminating senior experience,” considerably lower than the 36% reported on the 2018 NSSE.”

Table three: Number and Percentages of Students Completing High-Impact Practices as reported in 2018.

Colleges	Total number of Respondents	Worked with faculty member on research project		Worked on culminating senior experience	
		Number	percent	Number	Percent
All College	1,476	123	8.3%	262	17.8%
B.L. Moody III College of Business & Administration	46	4	8.7%	14	30.4%
College of Arts	357	14	3.9%	53	14.8%
College of Education	166	17	10.2%	9	5.4%
College of Engineering	176	15	8.5%	47	26.7%
College of Liberal Arts	264	30	11.5%	48	18.3%
College of Nursing and Allied Health Professions	197	8	4.1%	51	25.9%
College of Science	147	29	19.7%	27	18.4%
University College	125	23	4.8%	13	10.4%

II. Undergraduate research programs, events or SREs that are regularly monitored outside of the colleges

These programs, conferences, or grants are often also reported by their home College. SCRCs documents this data here because the programs have significance impact on the visibility of undergraduate student research.

Ronald E. McNair Post Baccalaureate Achievement Program, University of Louisiana at Lafayette

Mission / Purpose

The Ronald E. McNair Post Baccalaureate Achievement Program is designed to provide preparation for graduate study leading to the Ph.D. to eligible students who are from low income/first generation backgrounds and students who are from groups underrepresented in graduate study (Native American, Hispanic, and Latino, African American, Pacific Islanders, Alaskan Natives). This program was enacted in 1989 in honor of Dr. Ronald McNair, Ph.D. (physics) researcher, astronaut, community activist, youth motivator. Dr. McNair, along with 6 other astronauts, perished in the 1986 Challenger shuttle disaster. Participants are provided with the opportunity for a faculty-mentored research internships, seminars and workshops on graduate school admissions, testing, financial aid, travel to conferences, and other experiences to assist them with enrollment in graduate study. This program was first funded in 1992 at UL Lafayette and has continuously been refunded through competitive grant competitions through the U.S. Department of Education. We are currently in the 4th year of a five-year funding cycle, and we are one of 4 programs in Louisiana (LSU, Xavier, UNO) and one of 155 in the nation. Approximately 7% of our participants have published their work as undergraduates.

The McNair Program assists the university's mission of retaining, preparing, and graduating individuals from identified eligible groups with academic backgrounds and skills necessary to enter the workforce and/or pursue graduate study or professional school matriculation. *During this program's operation since 1992, **740+ students have participated in and completed this program.** Of this number 39 have earned a doctorate degree (30 Ph.D.s, 4 Ed.D.s, 1 D.Aud.s, 2 D.PT; 1 Ph.S.s, 1 D.NPs, 12 M.D.s, 15 JDs), and 250 Master's degrees.* Approximately 42% of participants have enrolled in graduate study or the professional school level. Former UL Lafayette McNair scholars are involved in a wide range of employment – college professors and instructors, elementary and secondary school teachers and administrators, engineers in corporate and government entities, social workers, medical doctors or health care workers, psychiatrist and mental health counselors, researchers, lawyers, MBA/CPA workers with corporate entities, public policy and administration, and other varied career fields.

University Honors Program:

An undergraduate honors thesis is completed by honors students.

The Honors Program offers the opportunity to complete an honors thesis. Since 2015, 25 students have completed this task, 12 are scheduled to complete in 2021. The preparation course that the student takes while completing the thesis is Honors 497. Completing a thesis, which is comprised of intense SRE activity, is not required to earn an honors degree within the student’s field of study.

Louisiana Council on Excellence in Undergraduate Research (LaCOUER)

LaCOUER is the governing body for undergraduate research. It provides funding, networking opportunities, and presentation spaces for all students and faculty committed to undergraduate research.

Undergraduate Research Mini Grants of \$2000 dollars have been distributed for each year from 2015–2021. LaCOUER is budgeted to distribute 20 grants each year. Some years there were ties in the review process and both grants were funded.

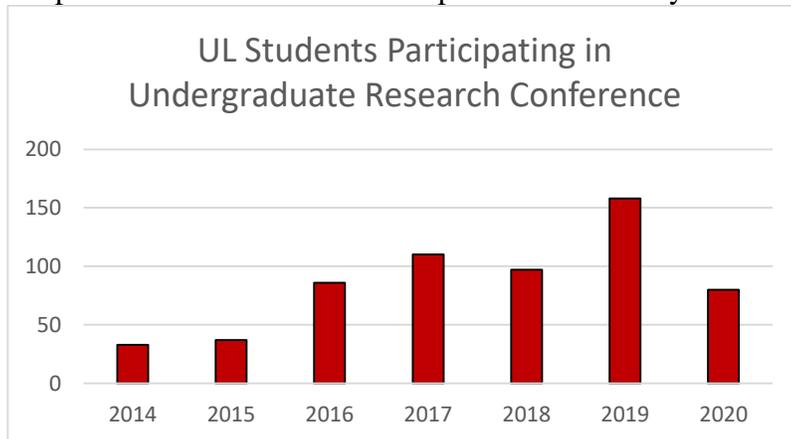
Graph one: Number of mini-grants funded each year



Conferences, Symposium, Presentations and Performances

The Undergraduate Research Conference (UGRC) (This information was included in the QEP through 2018) was started by the Honors Program and is now managed by SCRCs. The participation has increased over several years, however COVID has had an impact, please see table below. This event is open to students from across the state of Louisiana who are completing research in all fields of study. Participation in the conference does not required students to be in the Honors Programs.

Graph two and Table four: Participation of UL Lafayette student in the UGRC.



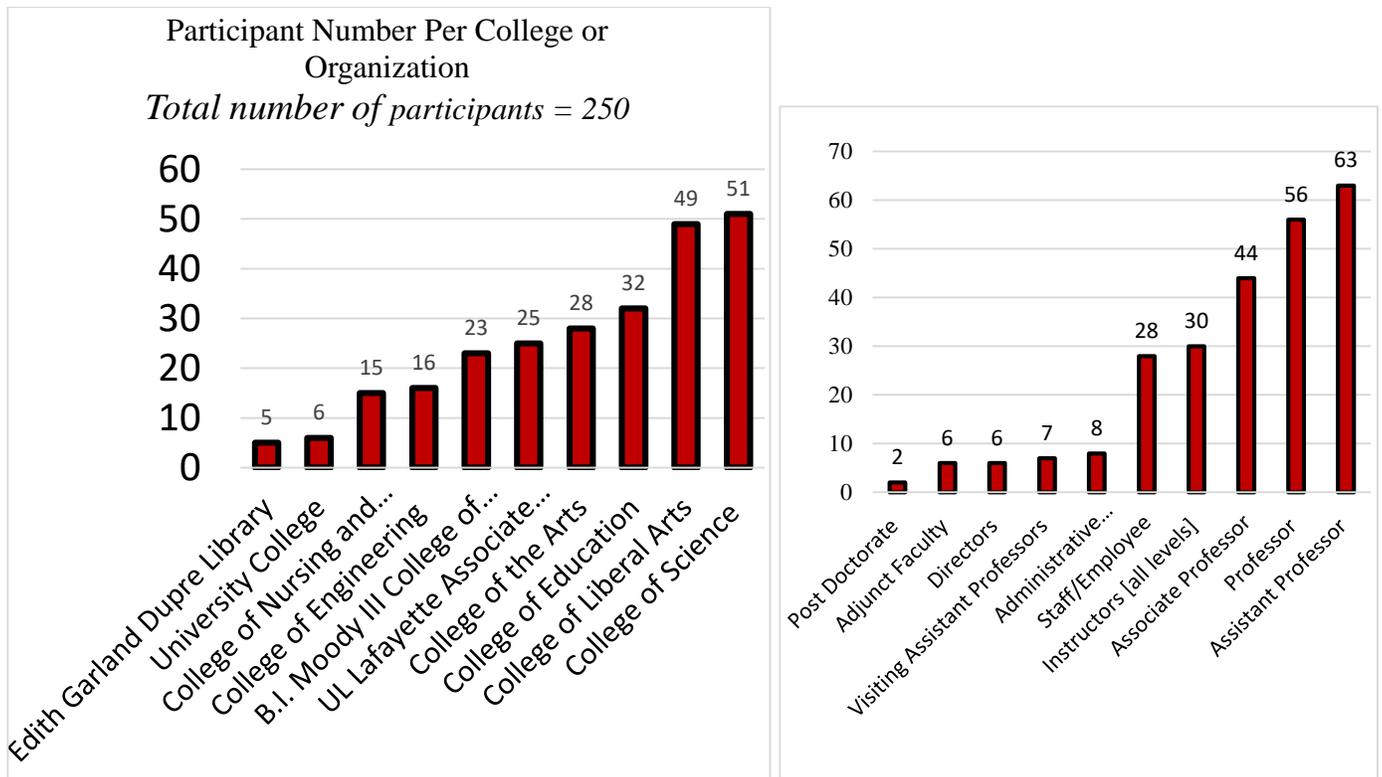
Year	Number of UL Lafayette Students
2014	33
2015	37
2016	86
2017	110
2018	97
2019	158
2020	80

Biology Undergraduate Research Symposium (BURS)

This event began in spring of 2016 with 13 oral presentations given by undergraduates completing original, mentored research. The symposium now includes oral and poster presentation sessions. There is also an award given in memorial to Dr. Duke-Sylvester for the best oral and poster presentations. The 2020 and 2021 symposiums were cancelled due to COVID. However, the 2022 symposium will be held in the spring semester, virtually or face to face.

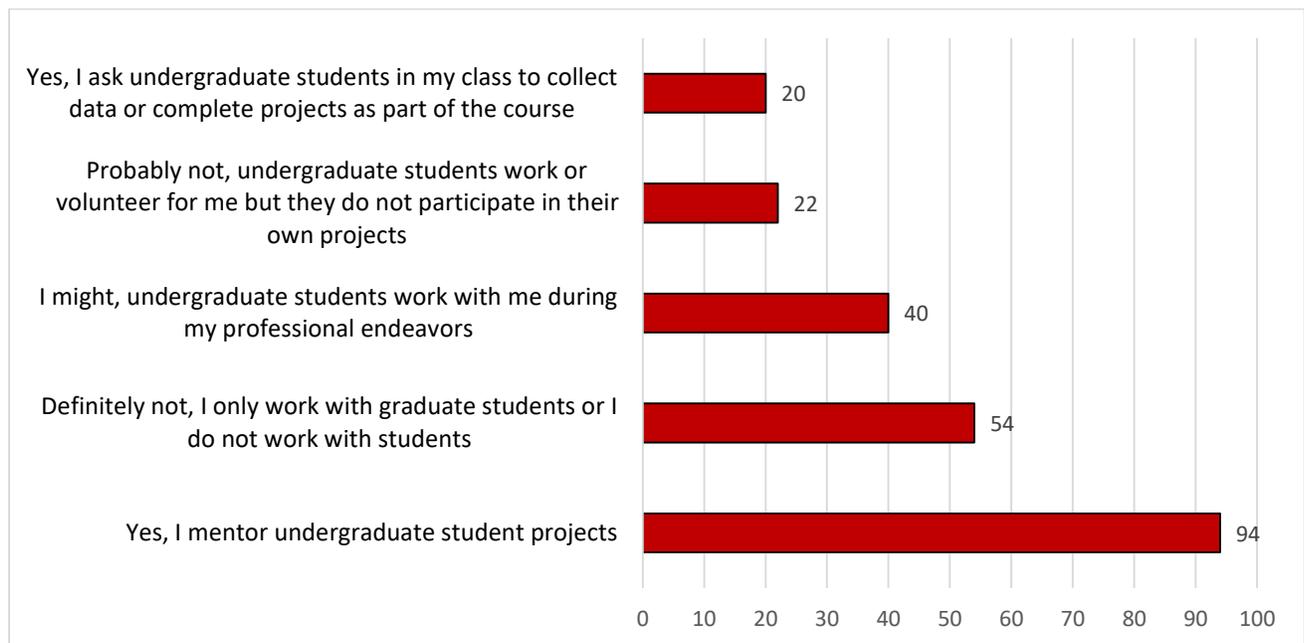
III. SCRCS Faculty Survey results

There were 250 people (faculty and staff) who responded to the survey conducted by SCRCS. The group of respondents was diverse; members from all colleges as well as some centers participated (Graphs three & four). The largest group of respondents came from the College of Sciences and the smallest from the Edith Garland Dupré Library. The largest group of respondents were assistant professors. The analysis of the survey did not account for the varying numbers of faculty and staff employed by each category; this should be noted when reviewing this data.



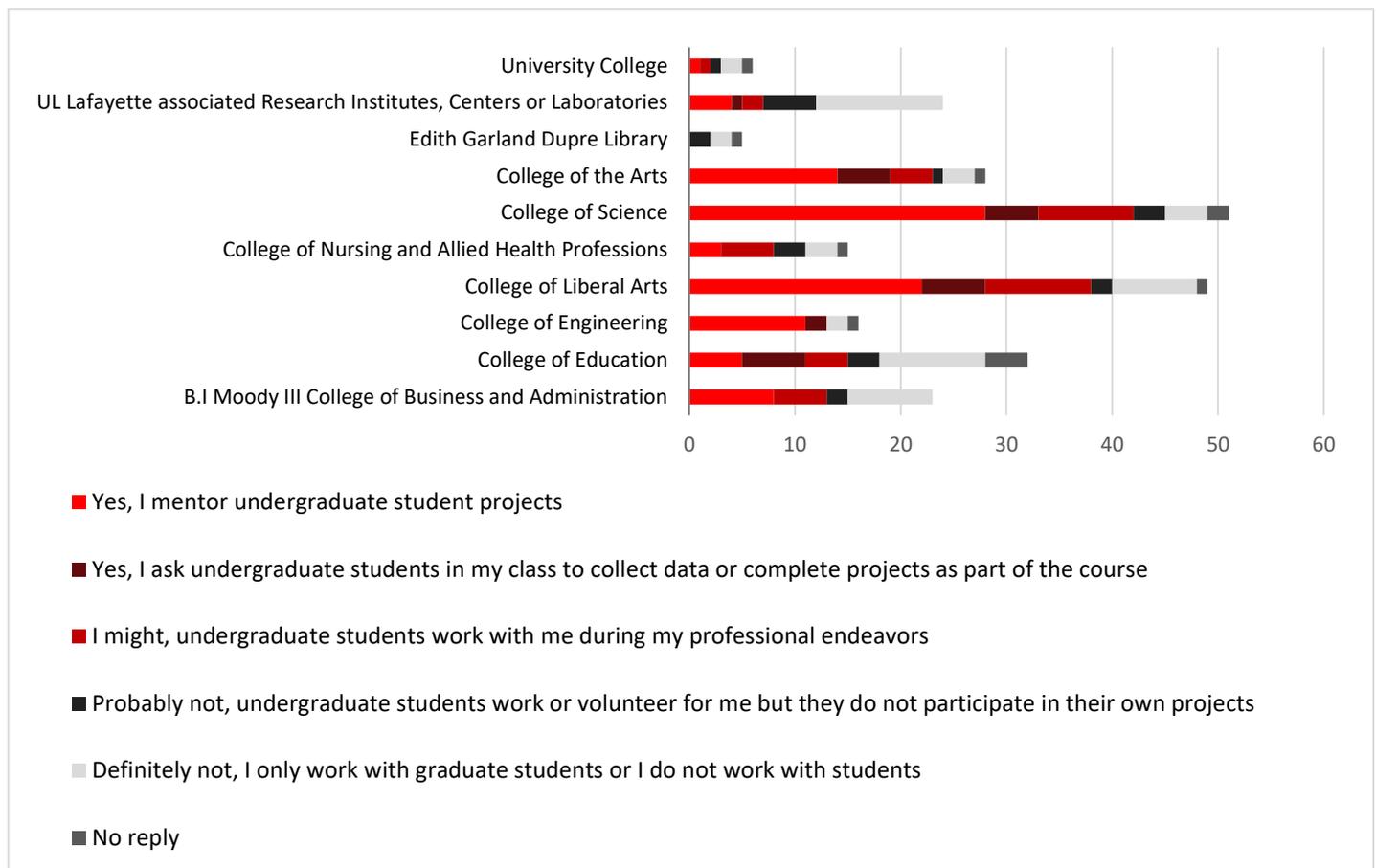
Graphs three and four: Number and distribution of respondents to the SCRCS survey given during the fall 2021 semester.

All of the respondents to the survey replied that they taught classes in the range of 10-40 students or 40-80 students. Faculty or staff teaching courses with larger or smaller student numbers did not participate in this survey, or they did not respond to the question inquiring about teaching load. At least half of the respondents report participation in SRE activities, although 62 respondents report that they are unsure if what they are doing counts as an SRE. There are 22 respondents who work with undergraduate students, but did not count the work as SREs, identifying the work as not being the student's personal project (Graph 5). The largest group are faculty or staff (94) that reported, "Yes, I mentor undergraduate student projects." A total of 114 respondents report participating in SRE activity. Only 20 respondents report completing course embedded SRE activity.



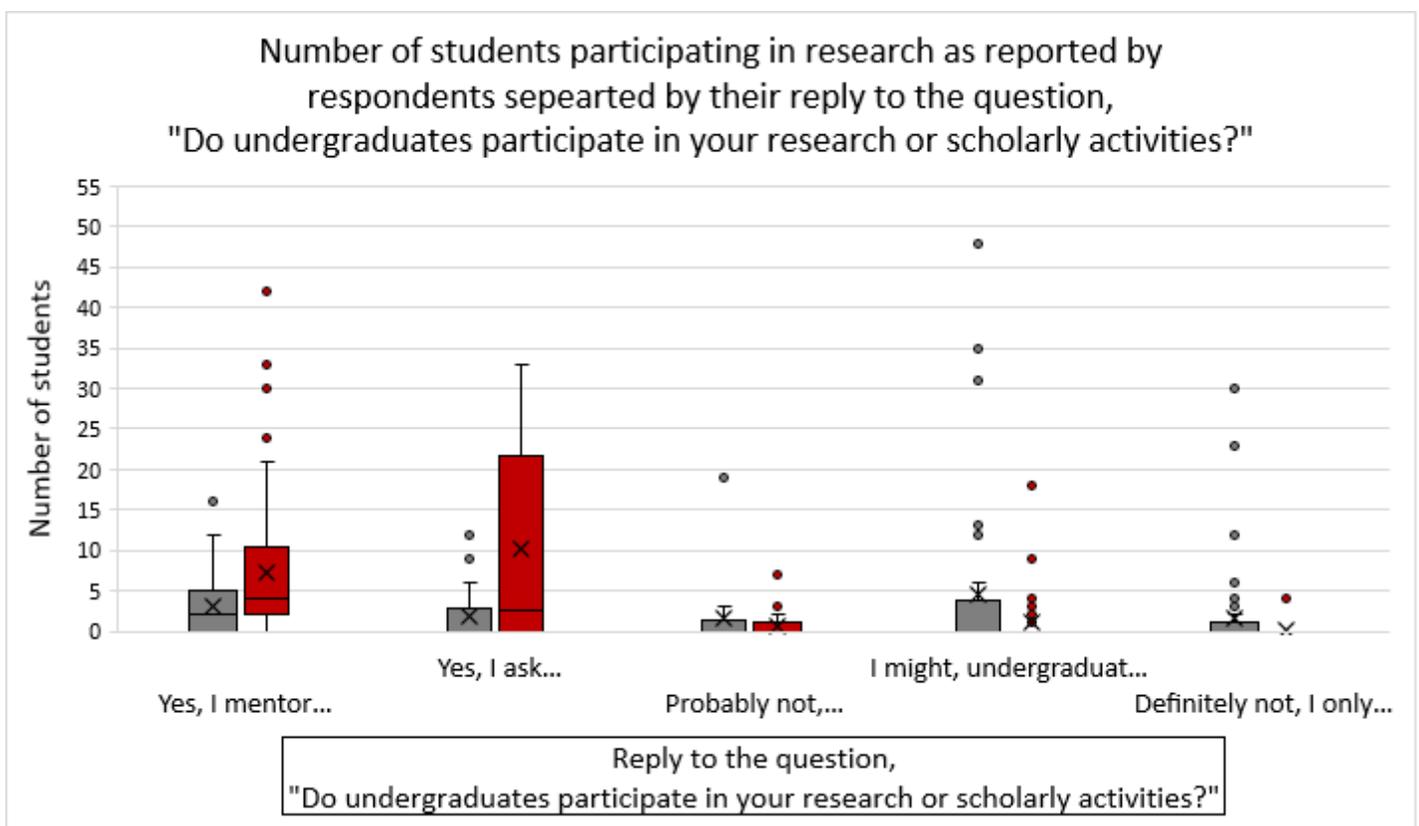
Graph five: Measure of the replies from respondents to the question, "Do undergraduates participate in your research or scholarly activities?"

SCRCS further analyzed the data collected by separating the respondents into groups by their reply to the question, “Do undergraduates participate in your research or scholarly activities?” and their college or center (Graph six). Individually mentored SREs display a strong trend as reported by respondents that participated in the SCRCS survey.



Graph six: Distribution of faculty replies to the questions, “Do undergraduates participate in your research or scholarly activities?” by college.

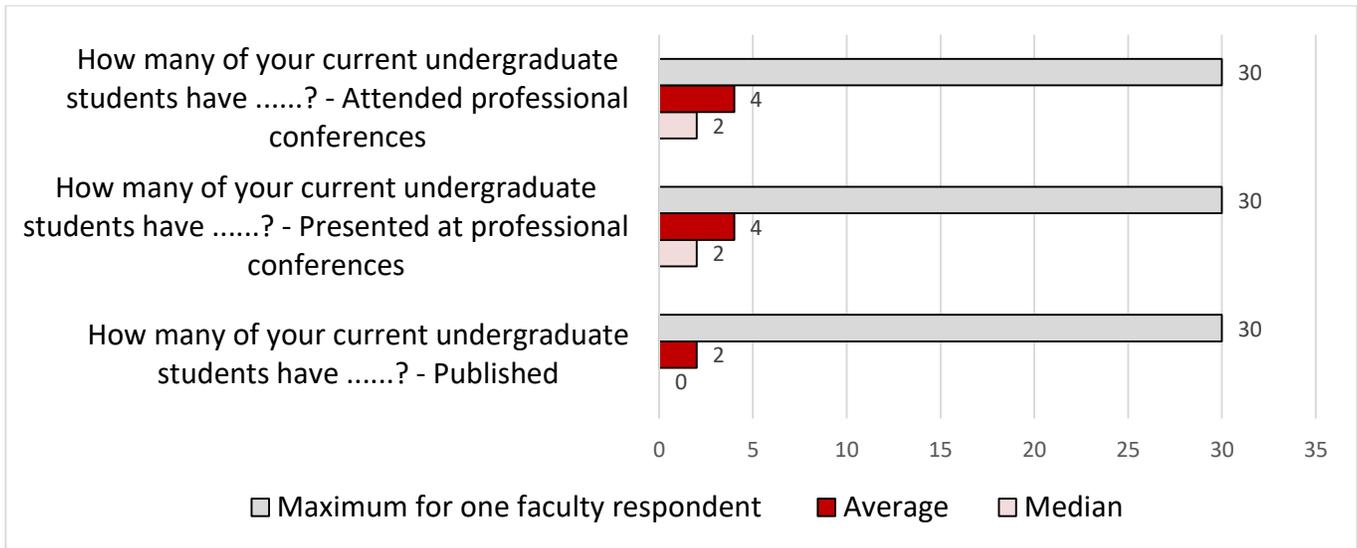
Larger numbers of respondents could make a significant difference in the distribution. It is important to note that a definition of an SRE was not provided to those who responded to the survey. There are outliers in every category of replies and this was expected. As the QEP points out, there are silos of SRE activity occurring across the University, but communication, guidelines, organization, and effective collection of data on undergraduate research is still limited. A box and whiskers plot displays the number of graduate or undergraduate student respondents who worked based on the respondent's reply to the question, "Do undergraduates participate in your research or scholarly activities?". The number of graduate students is the sum of doctoral and master students, and the number of undergraduates is the sum of students working on grants, scholarships, or volunteering. Respondents who did not answer the question about student participation were not included in the box and whiskers plot.



Graph seven: box and whiskers plot of the number of graduate and undergraduate student reported by respondents.

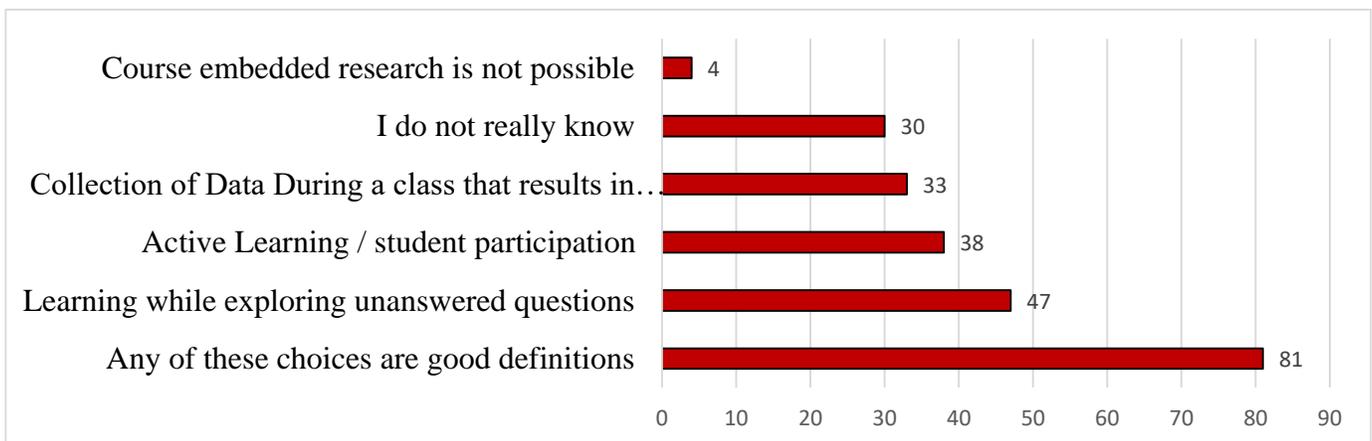
SCRCS analyzed all 255 replies to the questions in the survey addressing undergraduate publishing and conference participation, "How many of your current undergraduate students have published, presented at professional conferences, or attended professional conferences?". We found that 30 of the 255 faculty respondents reported publishing with undergraduate students. More faculty respondents reported SRE activity that resulted in ungraduated students presenting at or attending professional conferences (63 total). The maximum number of students that a single faculty reported was 30. This is an outlying number (Graph

8). The median number of students per faculty respondent was two. This is informative because it shows that most undergraduates are not publishing their work or attending professional conferences. The silos of productivity are amazing, but it should be noted and not allowed to skew data and affect conclusions.



Graph eight: Measure of undergraduate student publishing or attending professional conferences as reported by all 255 faculty respondents

Respondents were asked to answer the question, “What is course embedded research?”. The choices in Graph eight were provided in the survey. It is noteworthy that the definition of a SRE that was published in the QEP was not provided in the survey or in the directions for the survey. It should not be assumed that respondents were looking for a specific definition. From the replies offered, the reply chosen by the largest number of respondents was “any of these choices are good definitions.”



Graph nine: Measure of respondent replies to the question “What is course embedded research?”

IV. Faculty Survey of Student Engagement (FSSE) 2020 Snapshot

Report provided by Melissa Lewis, Director of Office of Planning & Academic Initiatives



FSSE 2020 Snapshot University of Louisiana at Lafayette

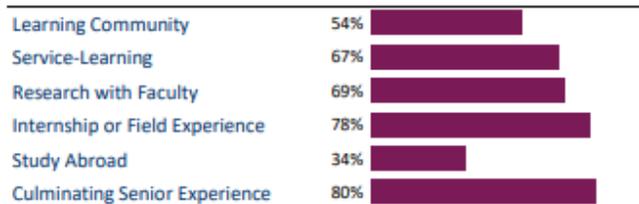
A Summary of Faculty Results

Student engagement represents two critical features of collegiate quality. The first is the amount of time and effort students put into their studies and other educationally purposeful activities. The second is how institutional resources, courses, and other learning opportunities facilitate student participation in activities that matter to student learning. FSSE surveys faculty who teach at least one undergraduate course in the current academic year. This *Snapshot* is a concise collection of key findings from your institution's FSSE 2020 administration. We hope this information stimulates discussions about the undergraduate experience. Additional details about these and other results appear in the *Frequencies* and *FSSE-NSSE Combined* reports.

High-Impact Practices

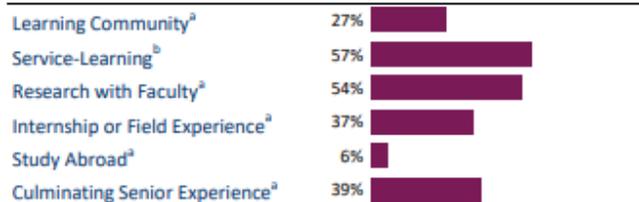
Due to their positive associations with student learning and retention, special undergraduate opportunities are designated "high-impact." The first figure at right compares the percentage of your faculty who believed it was "Very important" or "Important" for undergraduates at your institution to participate in High-Impact Practices before they graduate. The second figure summarizes faculty participation in three selected High-Impact Practices in a typical week.

Faculty Importance for High-Impact Practice Participation



Note: Percentage of faculty responding "Very Important" or "Important"

Faculty Participation in High-Impact Practices



a. Percentage of faculty responding "Yes" to participation

b. Percentage of faculty responding that at least "Some" of their courses include a service-learning component

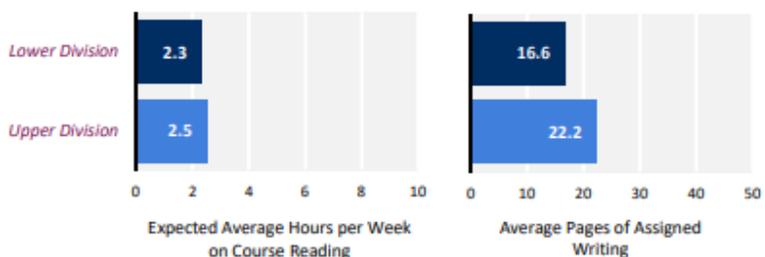
Time Spent Preparing for Class

These figures report the average weekly class preparation time your faculty *expected* students to spend, and the average amount of time they perceived students *actually* spent, in the faculty's selected course sections.



Reading and Writing

These figures summarize the number of hours your faculty expected students to spend reading, and the average number of pages of assigned writing, for the faculty's selected course sections.



Note: The number of pages of assigned writing is an estimate calculated from three separate survey questions.

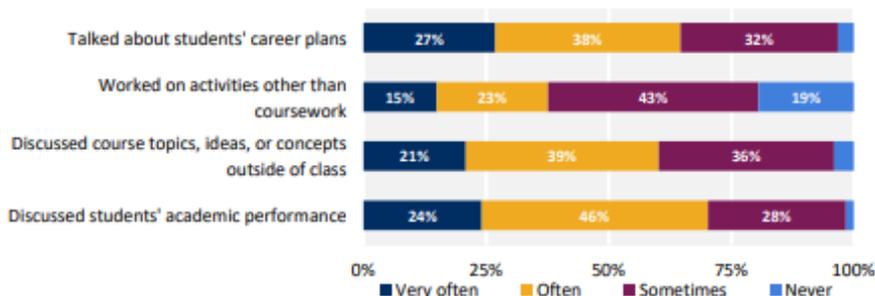
Time Allocation

This figure summarizes the number of hours that faculty spent in a typical seven-day week on teaching activities (preparing, teaching class sessions, grading, meeting with students outside of class, etc.); advising; research, creative, or scholarly activities; and service activities (committee work, administrative duties, etc.)



Student-Faculty Interaction

Faculty reported how often they had done each of the following with the undergraduate students they teach or advise:



Supportive Environment

Faculty reported how important it was to them that your institution *increase* its emphasis on each of the following:

Faculty Values (Sorted highest to lowest)	Percentage of Faculty Responding "Very Important" or "Important"
Providing support to help students succeed academically	96%
Providing support for students' overall well-being (recreation, health care, counseling, etc.)	92%
Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.)	88%
Students using learning support services (tutoring services, writing center, etc.)	86%
Students spending significant amounts of time studying and on academic work	80%
Providing opportunities for students to be involved socially	75%
Helping students manage their non-academic responsibilities (work, family, etc.)	74%
Students attending events that address important social, economic, or political issues	72%
Students attending campus activities and events (performing arts, athletic events, etc.)	62%

Administration Details

Class Level

	Lower Division	Upper Division	Other	Missing
Count	95	157	17	39
Percentage	31%	51%	6%	13%

See your *Administration Summary* and *Respondent Profile* reports for more information. Only faculty who reported teaching lower- or upper-division courses were included in this report.

Additional Questions

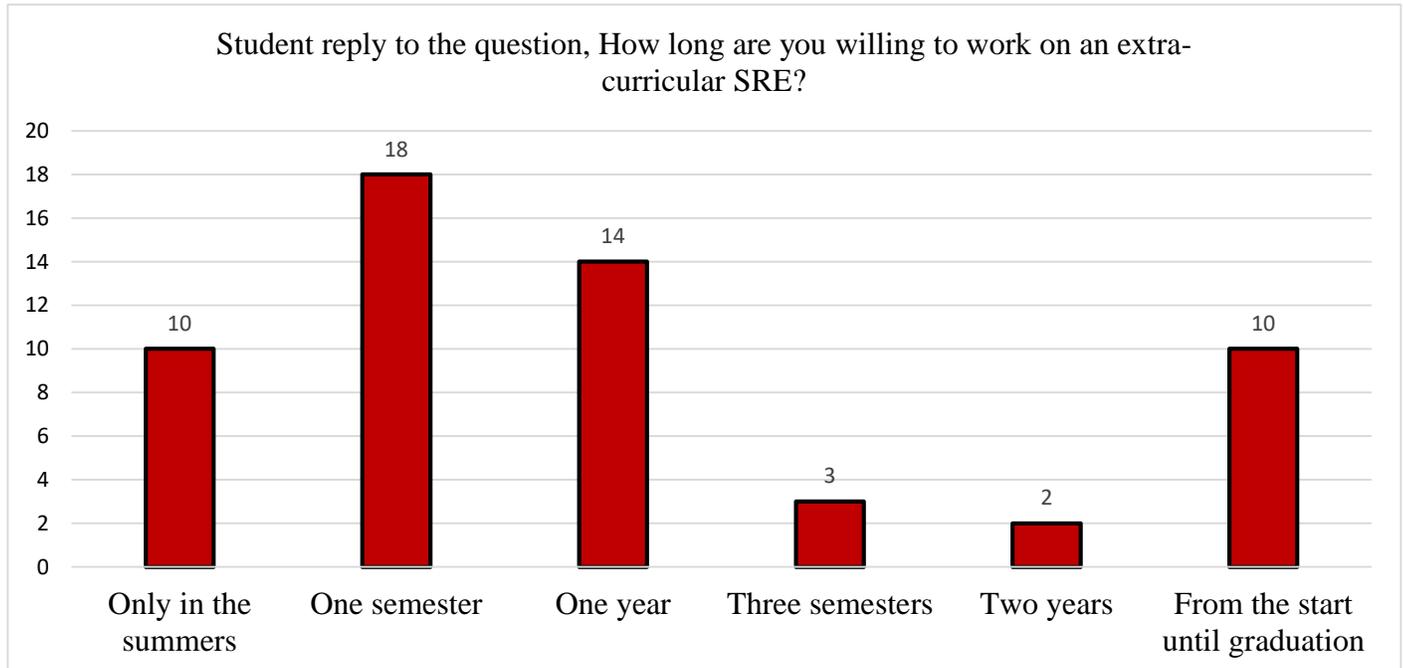
Your institution did not choose to administer additional questions. In future administrations, you may customize FSSE by participating in a topical module or a consortium.

What is FSSE?

FSSE, a complementary survey to the National Survey of Student Engagement, collects information annually at hundreds of four-year colleges and universities from faculty who teach at least one undergraduate course in the current academic year. The results provide information about faculty expectations for student engagement in educational practices that are empirically linked with student learning and development. Institutions use their data to identify aspects of the undergraduate experience that can be improved through changes in policy and practice. For more information, visit our website: fsse.indiana.edu.

V. SCRCs Student Survey Results

There were only 65 students that responded to the student survey, 34 (52%) of those answered yes to the question, “Are you interested in completing an extra-curricular (not in class) research or creative activity project also referred to as a Student Research Experience (SRE)?”. Roughly half of these 34 students (15 (44%)) answered yes or maybe to the question, “Have you taken a class that included a research or creative activity component also referred to as a Student Research Experience (SRE)?”. We also asked the students who responded to the survey to answer the question, “How long are you willing to work on an extra-curricular SRE?”. Graph ten displays the distribution of the replies. While the number of replies is limited, it is worth noting that only 10 students thought an SRE should occur throughout their academic experience. SCRCs will promote the student survey during the 2021/2022 school year in hope of increasing the number of replies.



Graph ten: Distribution of the replies to the question, “How long are you willing to work on an extra-curricular SRE?”

VI. National Survey of Student Engagement (NSSE) 2020 snapshot

Report provided by Melissa Lewis, Director of Office of Planning & Academic Initiatives



NSSE 2020 Snapshot University of Louisiana at Lafayette

A Summary of Student Engagement Results

Student engagement represents two critical features of collegiate quality. The first is the amount of time and effort students put into their studies and other educationally purposeful activities. The second is how institutional resources, courses, and other learning opportunities facilitate student participation in activities that matter to student learning. NSSE surveys undergraduate students in their first and final years to assess their levels of engagement and related information about their experience at your institution.

Comparison Group
The comparison group featured in this report is **Southeast Public**. See your *Selected Comparison Groups* report for details.

This *Snapshot* is a concise collection of key findings from your institution's NSSE 2020 administration. We hope this information stimulates discussions about the undergraduate experience. Additional details about these and other results appear in the reports referenced throughout.

Engagement Indicators

Sets of items are grouped into ten Engagement Indicators, organized under four broad themes. At right are summary results for your institution. For details, see your *Engagement Indicators* report.

Key:

- ▲ Your students' average was significantly higher ($p < .05$) with an effect size at least .3 in magnitude.
- ▲ Your students' average was significantly higher ($p < .05$) with an effect size less than .3 in magnitude.
- No significant difference.
- ▼ Your students' average was significantly lower ($p < .05$) with an effect size less than .3 in magnitude.
- ▼ Your students' average was significantly lower ($p < .05$) with an effect size at least .3 in magnitude.

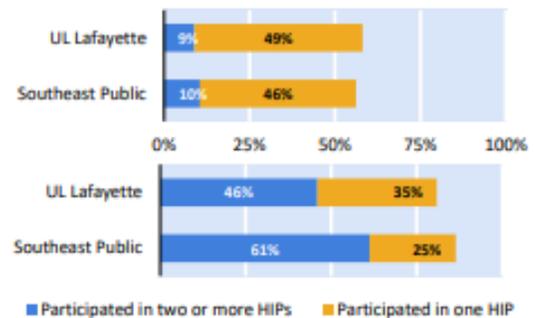
Theme	Engagement Indicator	Your students compared with Southeast Public	
		First-year	Senior
Academic Challenge	Higher-Order Learning	▼	--
	Reflective & Integrative Learning	▼	▼
	Learning Strategies	--	--
Learning with Peers	Quantitative Reasoning	▼	▼
	Collaborative Learning	▼	▼
	Discussions with Diverse Others	--	--
Experiences with Faculty	Student-Faculty Interaction	▼	▼
	Effective Teaching Practices	▼	--
Campus Environment	Quality of Interactions	--	▼
	Supportive Environment	--	▼

High-Impact Practices

Due to their positive associations with student learning and retention, special undergraduate opportunities are designated "high-impact." For more details and statistical comparisons, see your *High-Impact Practices* report.

First-year
Service-Learning, Learning Community, and Research w/Faculty

Senior
Service-Learning, Learning Community, Research w/Faculty, Internship, Study Abroad, and Culminating Senior Experience

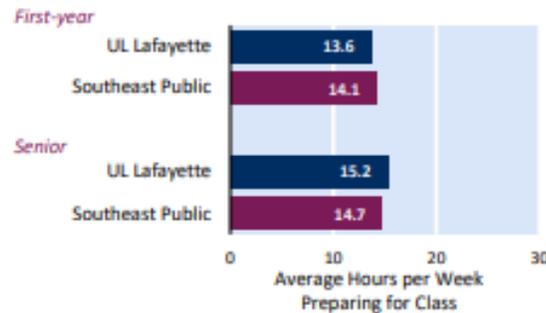


Academic Challenge: Additional Results

The Academic Challenge theme contains four Engagement Indicators as well as several important individual items. The results presented here provide an overview of these individual items. For more information about the Academic Challenge theme, see your *Engagement Indicators* report. To further explore individual item results, see your *Frequencies and Statistical Comparisons*, the *Major Field Report*, the *Online Institutional Report*, or the Report Builder.

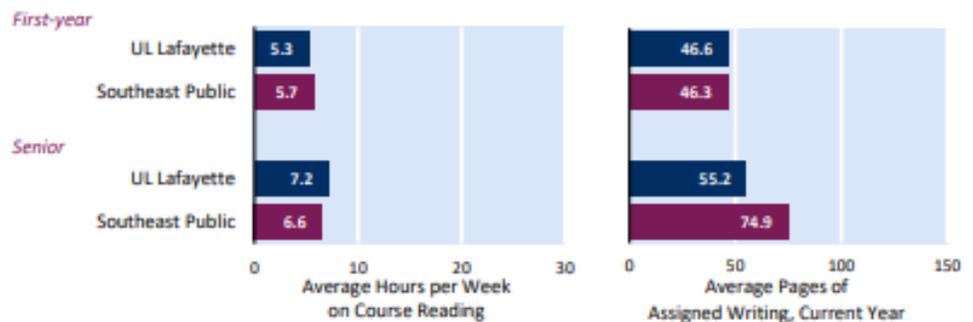
Time Spent Preparing for Class

This figure reports the average weekly class preparation time for your students compared to students in your comparison group.



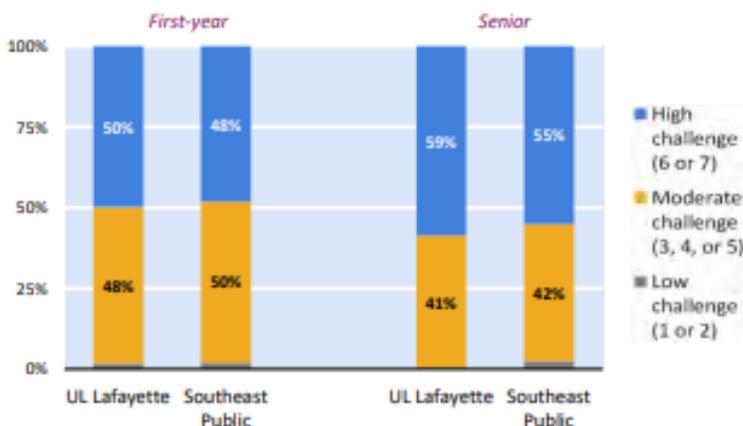
Reading and Writing

These figures summarize the number of hours your students spent reading for their courses and the average number of pages of assigned writing compared to students in your comparison group. Each is an estimate calculated from two or more separate survey questions.



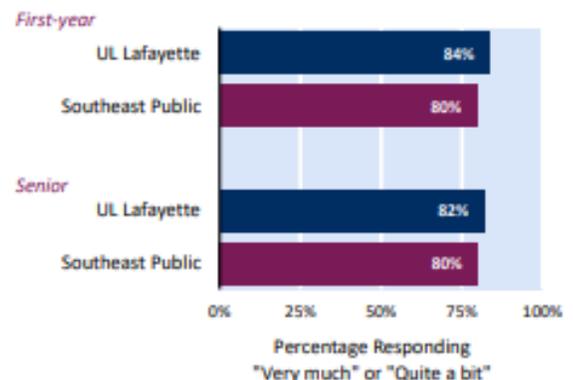
Challenging Students to Do Their Best Work

To what extent did students' courses challenge them to do their best work? Response options ranged from 1 = "Not at all" to 7 = "Very much."



Academic Emphasis

How much did students say their institution emphasizes spending significant time studying and on academic work? Response options included "Very much," "Quite a bit," "Some," and "Very little."



Item Comparisons

By examining individual NSSE questions, you can better understand what contributes to your institution's performance on the Engagement Indicators. This section displays the five questions^a on which your students scored the highest and the five questions on which they scored the lowest, relative to students in your comparison group. Parenthetical notes indicate whether an item belongs to a specific Engagement Indicator or is a High-Impact Practice. While these questions represent the largest differences (in percentage points), they may not be the most important to your institutional mission or current program or policy goals. For additional results, see your *Frequencies and Statistical Comparisons* report.

First-year

Highest Performing Relative to Southeast Public

Institution emphasis on studying and academic work^f

About how many courses have included a community-based project (service-learning)?^e (HIP)

Instructors provided feedback on a draft or work in progress^c (ET)

Reviewed your notes after class^b (LS)

Quality of interactions with other administrative staff and offices (...) ^d (QI)

Lowest Performing Relative to Southeast Public

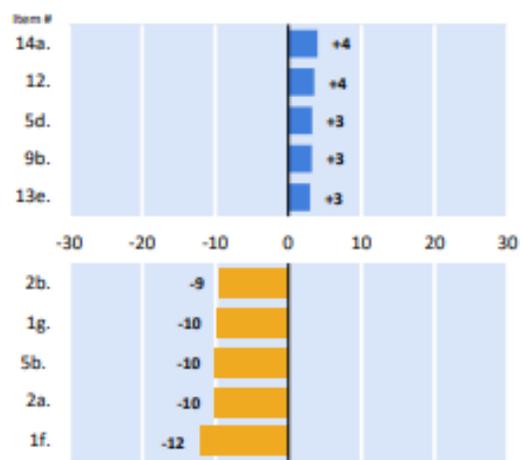
Connected your learning to societal problems or issues^b (RI)

Prepared for exams by discussing or working through course material w/other students^b (CL)

Instructors taught course sessions in an organized way^c (ET)

Combined ideas from different courses when completing assignments^b (RI)

Explained course material to one or more students^b (CL)



Percentage Point Difference with Southeast Public

Senior

Highest Performing Relative to Southeast Public

Instructors provided prompt and detailed feedback on tests or completed assignments^c (ET)

Spent more than 15 hours per week preparing for class

Quality of interactions with academic advisors^d (QI)

Extent to which courses challenged you to do your best work^d

Reviewed your notes after class^b (LS)

Lowest Performing Relative to Southeast Public

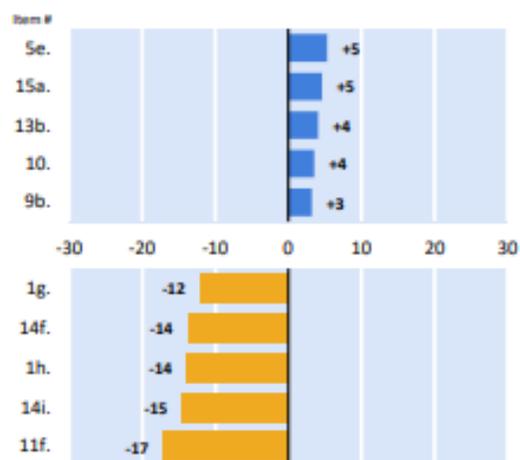
Prepared for exams by discussing or working through course material w/other students^b (CL)

Institution emphasis on providing support for your overall well-being...^c (SE)

Worked with other students on course projects or assignments^b (CL)

Institution emphasis on attending events that address important social/econ./polit. issues^c (SE)

Completed a culminating senior experience (...) (HIP)



Percentage Point Difference with Southeast Public

a. The displays on this page draw from the items that make up the ten Engagement Indicators (EIs), six High-Impact Practices (HIPs), and the additional academic challenge items reported on page 2. Key to abbreviations for EI items: HO = Higher-Order Learning, RI = Reflective & Integrative Learning, LS = Learning Strategies, QR = Quantitative Reasoning, CL = Collaborative Learning, DD = Discussions with Diverse Others, SF = Student-Faculty Interaction, ET = Effective Teaching Practices, QI = Quality of Interactions, SE = Supportive Environment. HIP items are also indicated. Item numbering corresponds to the survey facsimile available on the NSSE website.

b. Combination of students responding "Very often" or "Often."

c. Combination of students responding "Very much" or "Quite a bit."

d. Rated at least 6 on a 7-point scale.

e. Percentage reporting at least "Some."

f. Estimate based on the reported amount of course preparation time spent on assigned reading.

g. Estimate based on number of assigned writing tasks of various lengths.

How Students Assess Their Experience

Students' perceptions of their cognitive and affective development, as well as their overall satisfaction with the institution, provide useful evidence of their educational experiences. For more details, see your *Frequencies and Statistical Comparisons* report.

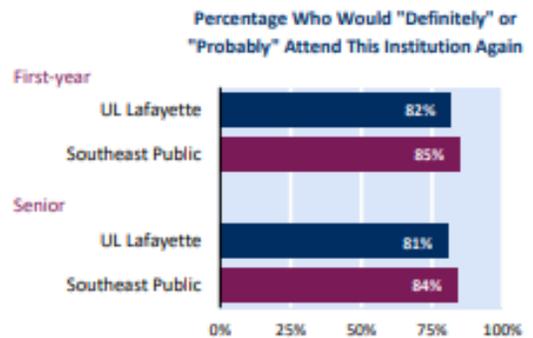
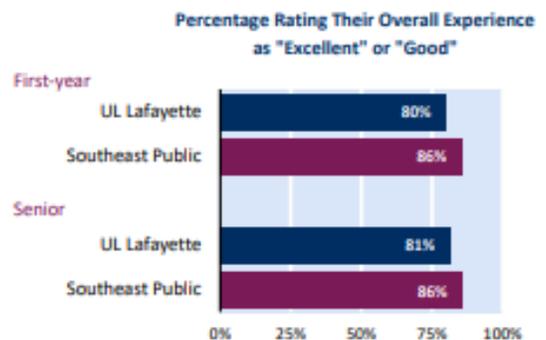
Perceived Gains Among Seniors

Students reported how much their experience at your institution contributed to their knowledge, skills, and personal development in ten areas.

Perceived Gains (Sorted highest to lowest)	Percentage of Seniors Responding "Very much" or "Quite a bit"
Thinking critically and analytically	86%
Working effectively with others	72%
Acquiring job- or work-related knowledge and skills	71%
Writing clearly and effectively	70%
Speaking clearly and effectively	68%
Analyzing numerical and statistical information	66%
Understanding people of other backgrounds (econ., racial/ethnic, polit., relig., nation., etc.)	65%
Developing or clarifying a personal code of values and ethics	63%
Solving complex real-world problems	61%
Being an informed and active citizen	52%

Satisfaction with UL Lafayette

Students rated their overall experience at the institution, and whether or not they would choose it again.



Administration Details

Response Summary

	Count	Resp. rate	Female	Full-time
First-year	490	18%	70%	95%
Senior	545	16%	68%	68%

See your *Administration Summary* and *Respondent Profile* reports for more information.

Additional Questions

Your institution did not choose to administer additional questions. In future administrations, you may customize NSSE by participating in a topical module or a consortium. See our website for more information. nsse.indiana.edu

What is NSSE?

NSSE annually collects information at hundreds of four-year colleges and universities about student participation in activities and programs that promote their learning and personal development. The results provide an estimate of how undergraduates spend their time and what they gain from attending their college or university. Institutions use their data to identify aspects of the undergraduate experience that can be improved through changes in policy and practice.

NSSE has been in operation since 2000 and has been used at more than 1,600 colleges and universities in the US and Canada. More than 90% of participating institutions administer the survey on a periodic basis.

Visit our website: nsse.indiana.edu

VII. FSSE-NSSE Combined Comparison

This table compares the percentage of faculty and students' (first-year and senior-year) participation in the NSSE High-Impact Practice, *Research with Faculty*.

Respondent Group	Survey Question	Respondent Percentage
First Year Student Participation	First-year students who have participated in research with faculty. Percentages represent the proportion of students responding "Done" or "In progress."	5%
Senior Year Student Participation	Senior-year students who have participated in Research with faculty. Percentages represent the proportion of students responding "Done" or "In progress."	17%
Faculty Participation	Faculty who participated in research projects in at least "Some" of their courses.	54%
Faculty Importance	Faculty who believed it was "Very important" or "Important" for undergraduates at UL Lafayette to participate in research with faculty.	69%

Source: *FSSE-NSSE 2020 Combined Report University of Louisiana at Lafayette*. National Survey of Student Engagement, 2020.

FSSE is a complementary survey to the National Survey of Student Engagement (NSSE). It collects information annually at four-year colleges and universities from faculty. The survey results provide information about faculty expectations for student engagement in educational practices that are linked with student learning and development.

VIII. Review of online SRE reports, student testimony, as well as news and events from each College

The Director and staff at SCRCs scanned the UL Lafayette website looking for posted evidence of SREs, conferences, programs, internships, and other events that support or involve undergraduate research and creative activity. In this part of the report, we used the definition of SRE that was published in the QEP, which is a sustained effort to apply subject knowledge, skills, and abilities to a project that is valued by the discipline ([page 5 QEP](#)).

College of the Arts: <https://arts.louisiana.edu/>

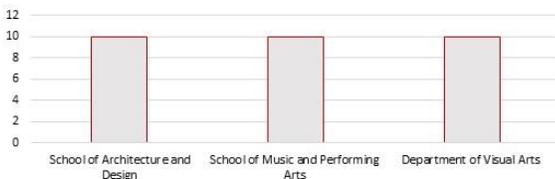
Information gathered from College of the Arts Annual Report and webpage

Undergraduate Research & Creative and Scholarly Activity at the University of Louisiana Lafayette 2015 - 2021

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College of Arts

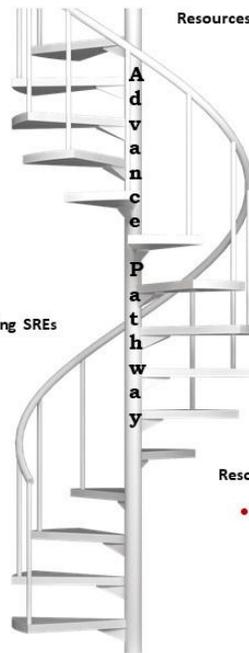
Estimated Number of students involved in SREs ???



Seminars, Conferences, Performances or Public Meeting and Displays involving SREs

Capstone Courses, Independent Study Courses

- Festival of the Arts
- ArTech Fusion
- Fletcher Hall Gallery
- Dean's Gallery
- Beaux Art Ball
- Student Work Galleries



Resources: Faculty participating in SREs (mentored or course embedded)

Resources: funding to students or faculty supporting students

- Dean's Scholarship Award Winners
- Student Organization Travel Support
- Collaborative grants for original cross-disciplinary research in Arts
- The SPARK Fund is used to promote the students, faculty, and creative works of the College of the Arts.
- SOAD Design Scholarship for creative activities

Resources: dedicated equipment or physical space

- Louisiana Art Education Student Association

Funding that supports student creative and scholarly activity:

- Dean's Scholarship Award Winners
- Outstanding Graduates
- Louisiana Art Education Student Association
- Student Organization Travel Support
- Collaborative grants for original cross-disciplinary research in Arts
- The SPARK Fund is used to promote the students, faculty, and creative works of the College of the Arts.

Festival of the Arts: The annual Festival of the Arts is a two-week celebration of the innovative and creative work from our faculty, students, and community partners at UL Lafayette and the local community. It is held every year in the spring and includes theater performances, art gallery exhibits, live music performances, art installations, and so much more. The Festival of the Arts brings together these art forms in a two-week showcase, displaying the best and most meaningful artwork that College of the Arts has produced during the year.

ArTech Fusion: Presented at the Acadiana Center for the Arts, ArTech Fusion features performances and talks by students. The seventh ArTech Fusion occurred in 2019. This event promotes and highlights the

dynamic relationship between the arts and technology, using creative collaboration. Premiere performances and lectures will feature video, dance, animations, spoken word, and music.

The Fletcher Hall Gallery: Located on the second floor of Fletcher Hall, this space contains 2500 square feet of exhibition space serving the Department of Visual Arts and the School of Architecture and Design (SOAD). This space hosts the Department of Visual Arts BFA senior exhibitions and the annual juried student exhibition. The space also hosts yearly exhibitions from SOAD undergraduates.

The Dean’s Gallery: This is a 600 square foot space, located adjacent to the Dean’s office in Fletcher Hall. This space exhibits small to moderately sized two and three-dimensional work, which can be completed by students.

Table seven: College of the Arts activity per school or department

<p>School of Architecture and Design</p>	<ul style="list-style-type: none"> • SOAD offers Design Scholarship and Design Award for student’s creative activities • Department webpage includes a tab for student work • To support students’ research and creative activities, SOAD has studios, labs, facilities, exhibition spaces • Community and Research projects are extensive. <ul style="list-style-type: none"> ○ House of Cards Project: Artist retreat built by students. ○ Building Institute: Students build projects of their own with contractors • https://architecture.louisiana.edu/community-research
<p>School of Music and Performing Arts</p>	<ul style="list-style-type: none"> • UL Symphony Student Soloist Streaming Concerts 2020 https://youtu.be/wE1I5L5C8XE • Dance and Theater productions are staged twice each academic year • Fall semester: “<i>State of LA Danse</i>” • UL Lafayette Dance Program Honored at Regional Dance Conference • Mainstage productions are directed by faculty but preformed, built, and crewed by students • Interdisciplinary Team Produces Original Arts Piece: <i>Liebesfrühling: Animated Poems</i> • Performing Arts presents ‘As You Like It’ • Capstone production is required for graduating seniors
<p>Department of Visual Arts</p>	<ul style="list-style-type: none"> • Beaux Art Ball is held annually for the past nine years • Visual Arts Day which includes the annual High School Rally Art Exhibit • The Department will hosts annual Bachelor of Fine Arts Exhibition • Student Work Galleries are exhibited https://visualarts.louisiana.edu/about-us/student-work-galleries • Sale of Student Work: In the Department of Visual Arts, there are multiple opportunities to purchase the high quality work that our students have produced. Every December, we have a ceramics and jewelry sale. Every October, our printmaking students design and print Halloween designs for the annual T-shirt sale.

Hilliard Art Museum: <https://www.hilliardmuseum.org/>

Information gathered from Director's report:

The Art Society: Undergraduate student group founded by one of our Visitor Services Specialists (VSS) and shepherded by our staff. For one of their programs, our curator arranged for the Society to visit the artist Vitus Shell working in the print studio in the College of Art.

Undergraduate Art History Research Forum: This Forum is hosted through the museum each year in collaboration with Dr. Chris Bennett and Dr. Allison Leigh in the Art Department.

Undergraduate Employees: The Museum employs seven undergraduates to serve as VSS handling admissions, store sales, and gallery security. VSS receive docent training each semester so that they can speak knowledgeably to visitors about the exhibitions.

Undergraduate internships: These internships are available at the museum through the Marketing Department, as well as through independent study for students in the Art Department.

Student Critiques: The curatorial department is currently beginning an initiative to invite exhibiting artists to participate in student critiques within the Art Department.

Museum Collections online: The Museum collections (35% of 2000 artworks) are online and available for research.

Exhibitions linked to Library Webpage: Dupré Library posts research guides for each major exhibition on their website: https://louisiana.libguides.com/hilliard?group_id=18324

Special tours/class sessions: Tours and sessions are designed and implemented for faculty on request. For example:

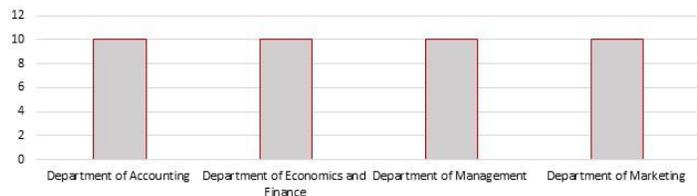
- Hospitality students get a behind the scenes tour to learn about cultural destinations, marketing for tourism, etc.
- Classes in material culture analysis, using visual analysis with artworks on exhibition or in the collection.
- Art education students create lesson plans based on works in the museum collection. Their curriculum is then made available on the museum website for teachers to download and use.
- Art education students earned credit by observing programs at the museum and volunteering to help teach art activities.
- Sociology students created and conducted a survey of visitor experiences.
- Exhibiting artists visit students in the College of Arts for lectures or critiques.

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B. I. Moody III College of Business Administration

Estimated Number of students involved in SREs ???

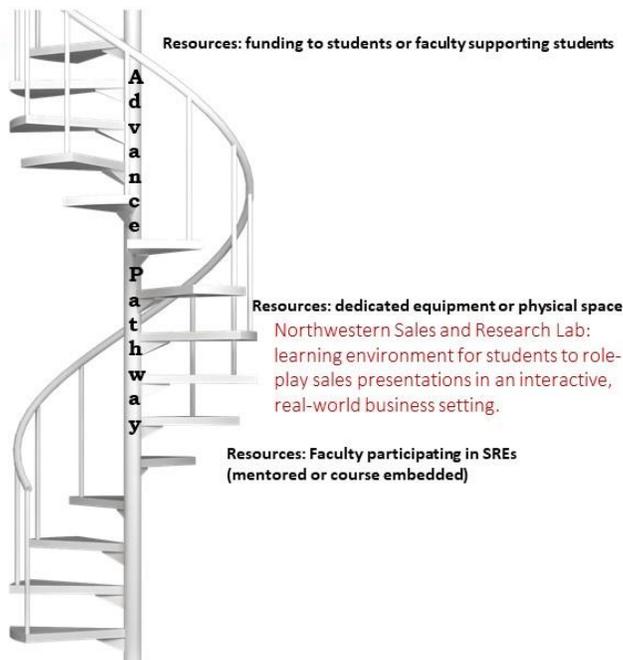


Seminars, Conferences, Performances or Public Meeting and Displays involving SREs

Moody Business Pitch Competition: is a premier business development contest open to all University of Louisiana at Lafayette students who are enrolled in a minimum of six (6) credits in the current academic year. The competition aims to provide students with hands-on education and experience in entrepreneurship. Students can submit ideas for new businesses, products, or social ventures. This initiative is sponsored by Building our Region's Future (BRF's) Entrepreneurial Accelerator Program (EAP), whose mission is to build an inclusive entrepreneurial eco-system in Louisiana.

Capstone Courses, Independent Study Courses

Hospitality Management students graduate with 800 hours of industry work experience and 150 hours of internships



Moody Business Pitch Competition: A premier business development contest open to all University of Louisiana at Lafayette students who are enrolled in a minimum of six (6) credits in the current academic year. The competition aims to provide students with hands-on education and experience in entrepreneurship. Students can submit ideas for new businesses, products, or social ventures. This initiative is sponsored by Building our Region's Future (BRF's) Entrepreneurial Accelerator Program (EAP), whose mission is to build an inclusive entrepreneurial eco-system in Louisiana.

Table eight: B.I. Moody III College of Business Administration activity per school or department

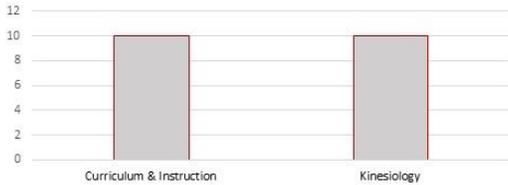
Department of Accounting	<p><i>Published Learning Goals & Objectives</i> <i>Mission Linkage III</i> GOAL C: Developing students' problem solving, critical thinking, and communication skills. (Research, critical thinking, problem solving, and communication)</p> <ul style="list-style-type: none"> Objective 9: Effectively conduct research pertinent to accounting issues and problems and critically analyze the research finding. Objective 10: Use appropriate communication styles understandable to diverse audiences.
Department of Economics and Finance	No information found on institutional undergraduate research and creative activities.
Department of Management	<p>Hospitality Management students graduate with 800 hours of industry work experience and 150 hours of internships.</p> <ul style="list-style-type: none"> Provides opportunities to earn certifications while obtaining a degree.
Department of Marketing	Northwestern Sales and Research Lab: provides a learning environment for students to role-play sales presentations in an interactive, real-world, business setting. Students utilize the lab to gain professional sales skills and knowledge.

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College of Education

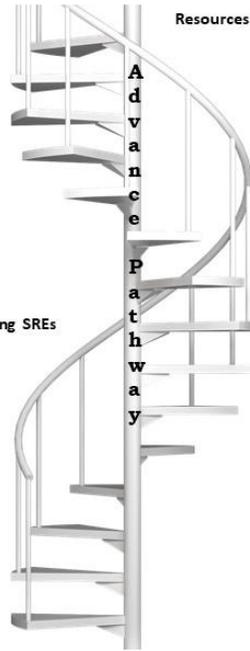
Estimated Number of students involved in SRE ???



Seminars, Conferences, Performances or Public Meeting and Displays involving SREs

Capstone Courses, Independent Study Courses

- Field Experiences at levels I, II and III are required courses for teacher certification.
- Teacher must complete a yearlong residency
- Internships are required for exercise science and health promotion and wellness majors, 3–9 credits.



Resources: Faculty participating in SREs (mentored or course embedded)

Resources: funding to students or faculty supporting students

Resources: dedicated equipment or physical space

There are six centers and two labs that can provide SRE experiences

- Center for Excellence in Education (CEE)
 - STEMulating summer camp 2021: for K-12 students, teachers, and STEM majors.
- Center for Gifted Education
- Center for Innovative Learning and Assessment Technology (CILAT)
- Instructional Materials Center
- Reading Center
- Center for Sports Success (CSS)
- Human Performance Lab
- Exercise Metabolism Lab

Undergraduate research and creative activity are one of the three pillars supporting the College of Education’s mission. There are several centers and labs, which encourage and promote research and creativity.

Extra-curricular activities (There are six centers that can provide SRE experiences.):

- [Center for Excellence in Education \(CEE\)](#)
 - STEMulating summer camp 2021: for K-12 students, teachers, and STEM majors.
- [Center for Gifted Education](#)
- [Center for Innovative Learning and Assessment Technology \(CILAT\)](#)
- [Instructional Materials Center](#)
- [Reading Center](#)
- [Center for Sports Success \(CSS\)](#)

Within curricular activities:

- Field Experiences at levels I, II and III are required courses for teacher certification.
- Teacher must complete a yearlong residency.

Table nine: College of Education activity per school or department

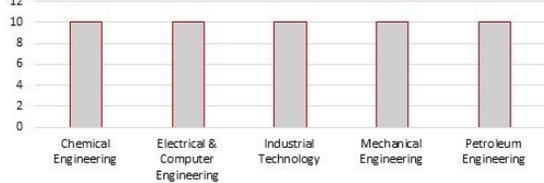
Curriculum & Instruction	<ul style="list-style-type: none"> • Christine Briggs teaches a course to seniors involving a mini-action research project. The class has presented at the UG research conference. Presentations are moderated and have occurred virtually and face to face.
Kinesiology	<ul style="list-style-type: none"> • Two Laboratories that can support SRE: <ul style="list-style-type: none"> ◦ Human Performance Lab ◦ Exercise Metabolism Lab • Internships are required for exercise science and health promotion and wellness majors (3–9 credits).

Undergraduate Research & Creative and Scholarly Activity at the University of Louisiana Lafayette 2015 - 2021

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College of Engineering

Estimated Number of students involved in SREs ???

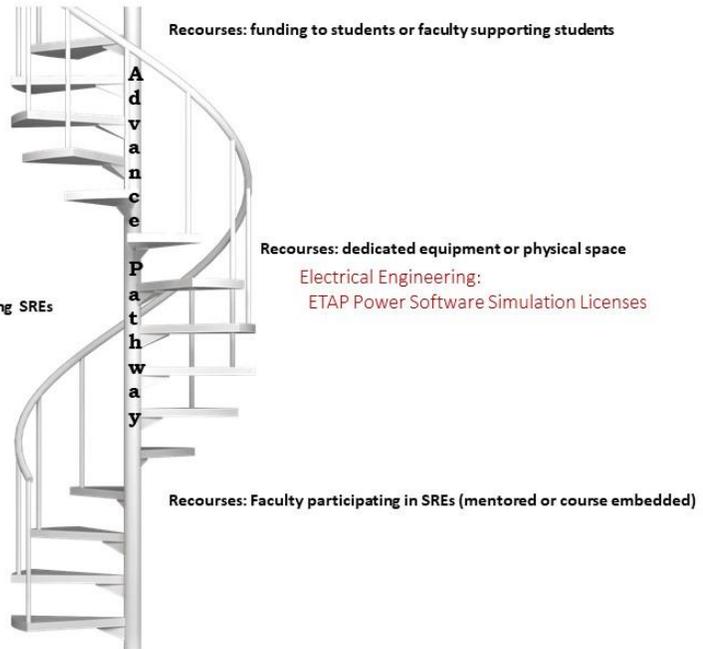


Seminars, Conferences, Performances or Public Meeting and Displays involving SREs

- Engineering and Technology Week activities
- Engineering & Technology Exposition

Capstone Courses, Independent Study Courses

- Frank & Jessie Mosing Endowed Engineering Student Career Development Program
- Electrical Engineering requires presentation of project design



Undergraduate Dissemination opportunities hosted at the college level:

- Engineering and Technology Week activities:
 - Student Chapter of the Louisiana Engineering Society (LES) organizes this event.
 - Undergraduates have a presentation contest during this event.
 - Undergraduates have a poster competition during this event.
- Engineering & Technology Exposition: The activities are designed to engage students, faculty, alumni, and the community in interesting events which showcase the engineering and technology professions. They also increase interest in and appreciation of the complex ways in which engineering and technology impact the world around us. The E&T Expo highlights opportunities in Engineering and Technology for high school students.
- Frank & Jessie Mosing Endowed Engineering Student Career Development Program: This a unique career development program that is available to all engineering and industrial technology students. The program is run by the Engineering Outreach Coordinator and is an extension of the Dean's Office. (Currently, the Outreach Coordinator position is vacant)
- Scholarships are available for undergraduate students, but no relationship was found between undergraduate research and these sponsored scholarships.

Table ten: College of Engineering activity per school or department

Chemical Engineering	<ul style="list-style-type: none"> No information found on institutional undergraduate research and creative activities occurring. 															
Civil Engineering	<ul style="list-style-type: none"> Students conduct more than 270 hours of planning and performing experiments, plus interpreting that data, and presenting it through lab reports. This might be considered course embedded SRE. No information found on institutional undergraduate research and creative activities. 															
Electrical & Computer Engineering	<ul style="list-style-type: none"> CAPE Satellite Program: The goal of this project is to give students at the University of Louisiana at Lafayette the opportunity to research, design, develop, and maintain a low-earth orbiting satellite (No specific information was found about the project’s intended participants, including all undergraduate and graduate students). Electrical Engineering Assistant Professor, Dr. Farzad Ferdowsi, has acquired ETAP Power Software Simulation Licenses. ETAP Digital Twin represents virtual models of a real-world power system under various physical and operational conditions (see REU grants in section III of this report). Senior Capstone Course includes project design and oral presentations. 															
Industrial Technology	<ul style="list-style-type: none"> No information found on institutional undergraduate research and creative activities. The webpage notes that ongoing projects are occurring, but it does not specify the nature of those programs. 															
Petroleum Engineering	<p>The department has an Ambassadors & Designing Leaders Program and an Apprenticeship Program. The Apprenticeship Program exposes undergraduate students to the latest industry research. Undergraduates work with the graduate students under the supervision of assigned mentors on their current on-going projects.</p>															
Mechanical Engineering	<ul style="list-style-type: none"> Engineering capstone design course I & II (MCHE 482 & 484). Project management, design of thermal systems, mechatronics, mechanical systems, and mechanical components. Oral and written presentations on current topics. The second of two capstone courses use cumulative design capabilities and teamwork in proposing, organizing, planning and implementation of a comprehensive open-ended project. Students develop their design over the course of a semester through an extensive problem understanding period where customer requirements are outlined and designs are developed. The final design is prototyped in Engineering Projects II, where students then evaluate and analyze the performance of their design. Each team of students is required to submit progress reports, formal reports, and present their work. <p style="text-align: center;">Two Year Enrollment Data of MCHE 482 and MCHE 484</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Semester</th> <th>Engineering Projects I</th> <th>Engineering Projects II</th> </tr> </thead> <tbody> <tr> <td>Spring 2020</td> <td>62</td> <td>68</td> </tr> <tr> <td>Fall 2020</td> <td>67</td> <td>61</td> </tr> <tr> <td>Spring 2021</td> <td>33</td> <td>66</td> </tr> <tr> <td>Fall 2021</td> <td>54</td> <td>36</td> </tr> </tbody> </table>	Semester	Engineering Projects I	Engineering Projects II	Spring 2020	62	68	Fall 2020	67	61	Spring 2021	33	66	Fall 2021	54	36
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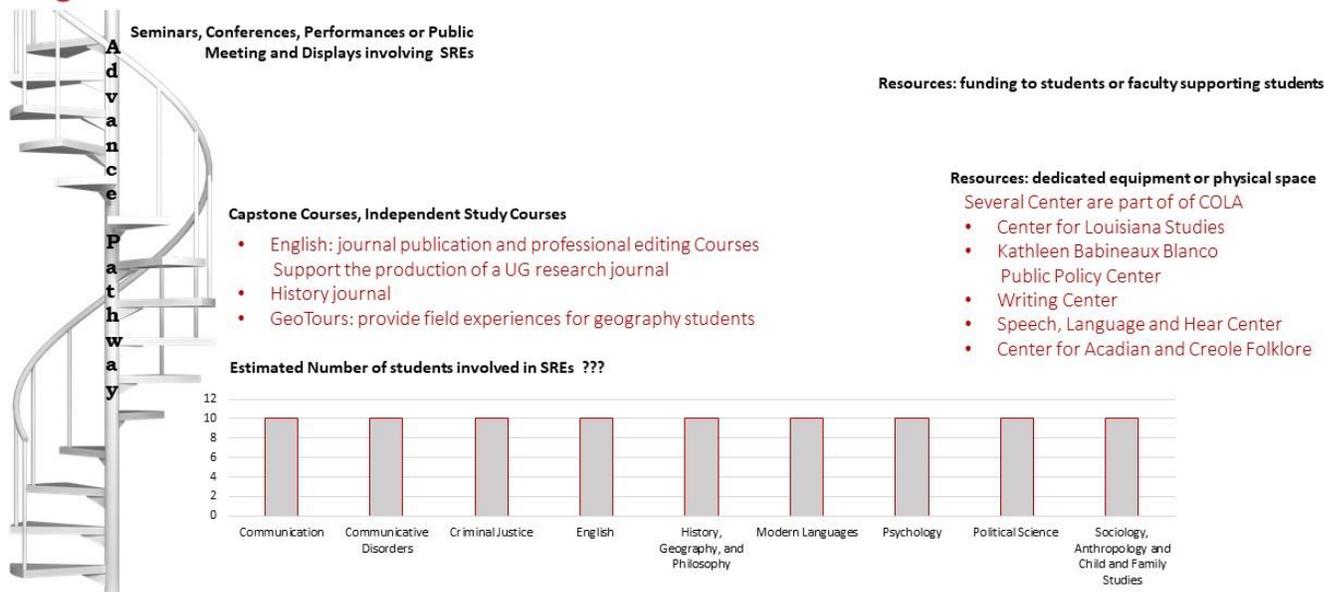
- | | |
|--|--|
| | <ul style="list-style-type: none">• Several research centers are listed under “Research Areas” however, student involvement is unclear.<ul style="list-style-type: none">○ Energy○ HVAC Systems○ Materials and Metal forming○ Robotics and Controls○ Systems Engineering○ Biomedical Research<ul style="list-style-type: none">▪ Dr. Tanvir Faisal musculoskeletal biomechanics/orthopedics work is listed the number of undergraduates participating is unclear.○ Multifunctional Materials and Devices |
|--|--|

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Resources: Faculty participating in SREs (mentored or course embedded)

College of Liberal Arts



- Hosts Region VI Social Studies Fair. Undergraduates assist in this event and the event promotes student projects valued by the discipline.
- The Study Abroad program is maintained in this college.
- Multiple institutes and centers are managed through COLA (centers not listed here are not involved in undergraduate research or they are listed elsewhere in this report):
 - Kathleen Babineaux Blanco Public Policy Center
 - Center for Louisiana Studies
 - [The Neitzel Family Endowed Student Awards in Louisiana Studies](#)
 - Recognizes outstanding student scholarship in any field related to Louisiana Studies.
 - [The Martin Family Undergraduate Research Assistantship](#)
 - Yearlong support for undergraduate research in interdisciplinary Louisiana Studies
 - The Writing Center is housed supported and managed by COLA. The Writing Center helps people become better writers, and it welcomes students (at all levels), faculty, and staff from all disciplines. The Center also offers resources for those writing in English as a second language.

Table eleven: College of Liberal Arts activity per school or department

Communication	<ul style="list-style-type: none"> • Internship requirements exist for the degree.
Communicative Disorders	Speech, Language and Hearing Center (opportunity for SRE activity).
Criminal Justice	<ul style="list-style-type: none"> • 400 level course work and internship opportunities exist. Students can work with variety of agencies and community offices: <ul style="list-style-type: none"> ○ 15th and 16th Judicial District Public Defender ○ Acadiana Legal Services ○ Dill Law firm ○ Garrett Law firm ○ Lafayette Police Department ○ Lafayette Parish Sheriff's Office ○ Lafayette City Marshal
English	<ul style="list-style-type: none"> • Writers in Residence Program • Southwestern Review: UL Lafayette's in-house print literary journal, featuring creative work from current UL Lafayette students. The SWR is produced annually by the Creative Writing Program under the editorship of a faculty advisor and a team of graduate and undergraduate students.
History, Geography, and Philosophy	<ul style="list-style-type: none"> • A history journal of selected student papers is published annually. • GeoTours: provides field experiences for geography students through the GeoTours initiative. Trips are designed to explore real-world venues that illustrate geographic ideas. • History Blog: faculty and students of the History Department post about their projects, research, and reviews. • Clio's Quill: Journal of the Epsilon Xi chapter of Phi Alpha Theta, produced by students at the University of Louisiana at Lafayette, which highlights scholarship by undergraduate and graduate students from across Louisiana.
Modern Languages	<ul style="list-style-type: none"> • Houses several centers or programs that could allow SREs. <ul style="list-style-type: none"> ○ Spanish Latin American Network ○ Francophone Studies <ul style="list-style-type: none"> ▪ Center for Acadian and Creole Folklore ▪ Feux Follets: literary and artistic review is published annually (in the Spring) by UL Lafayette's Modern Languages Department to promote French creative expression in Louisiana in the forms of fiction, non-fiction, poetry, songs, drama, visual arts, and francophone cultural expression.
Psychology	<p>Research initiatives (Labs) to advance the science and practice of psychology:</p> <ul style="list-style-type: none"> • Building Effective Environments through Scholarship (BEETS): reinvent the world through research, and sculpt the workplace through scholarship in the area of industrial/organizational psychology.

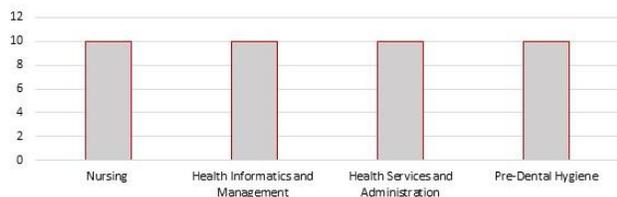
	<ul style="list-style-type: none"> • Cognition and Psycholinguistics (CaP): explores what people say, why people say what they say, and how people understand what others have said. • Data Science Application in Social and Community Psychology (DAISO): research in social, community and cross-cultural psychology. • Developmental Science Laboratory (DSL): examining developmental processes across the life span. • Health, Emotion, Anxiety, and Trauma Lab: students study health, emotion, anxiety, and trauma. They are interested in health-related psychological research. • Louisiana Contextual Science Research Group: behaviorism with an emphasis on Relational Frame Theory and the psychological flexibility model in Acceptance and Commitment Therapy. • Sexual Violence Research Laboratory. • Stress, Coping, and Wellness Laboratory. • The Achievement and Social Cognition (TASC): psychological factors associated with the achievement of excellence. • The Zebrafish Lab: research to better understand human behavior from a neurobiological standpoint using a zebra fish animal model.
Political Science	<ul style="list-style-type: none"> • Course credit is offered for internships that are political in nature. • Saloom Chair Speaker Series is open to undergraduates.
Sociology, Anthropology, Child & Family Studies	<ul style="list-style-type: none"> • Louisiana Public Archaeology Lab: outreach, research, education, and partnerships involving Louisiana's endangered and undiscovered archaeological record and cultural resources. • Project Nouvelle-Acadie / New Acadia Project: A multidisciplinary project involving archaeological, historical, and ethnographic research to find and investigate the 1765 settlements of New Acadia. • Early Childhood Laboratory <ul style="list-style-type: none"> ○ Observation and participation opportunities for students studying early human development, guidance, and programming for young children. ○ Research environment for students and faculty. ○ Model program observation facility for regional early childhood professionals.

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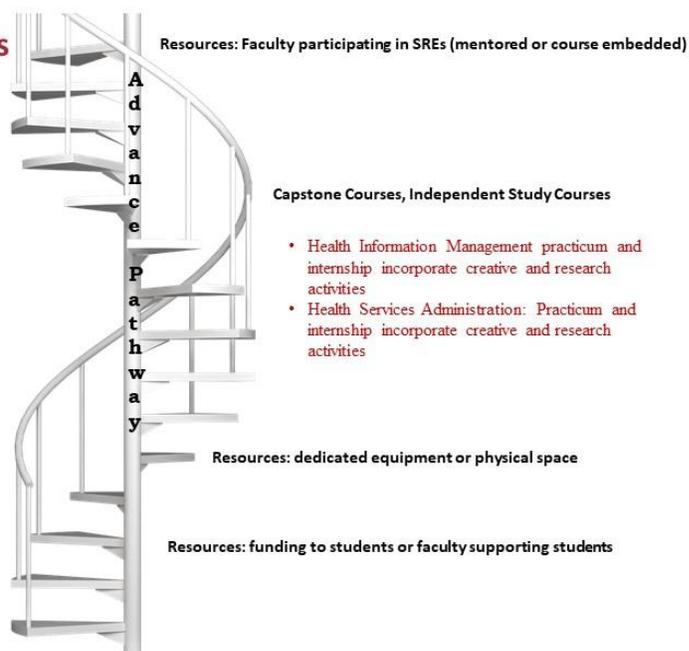
College of Nursing & Allied Health Professions

Estimated Number of students involved in SREs ???



Seminars, Conferences, Performances or Public Meeting and Displays involving SREs

- Wellness Wednesday Clinic: students, faculty and staff can obtain wellness check-ups, health screening and health education. Run by Junior level nursing students.
- Simulation and Learning Labs: program accredited by Society for Simulation in Healthcare (SSH)



The College is committed to establish a program of co-curricular activities to enhance student engagement, community involvement, and the educational experience.

Table twelve: College of Nursing & Allied Health Professions activity per school or department

Nursing	<ul style="list-style-type: none"> Wellness Wednesday Clinic: students, faculty and staff can obtain wellness check-ups, health screening, and health education. The Clinic is operated by junior-level nursing students. Simulation and Learning Labs: program accredited by the Society for Simulation in Healthcare (SSH).
Health Information Management	<ul style="list-style-type: none"> Practicum and internship incorporate creative and research activities: <ul style="list-style-type: none"> HIM 482 performed at a contracted healthcare facility anywhere in the United States. All HIM majors complete this internship in their final semester of study. Students gain experience in all health information management procedures previously studied as well as gaining insight, understanding, and skill in the managerial aspects of health information management administration. LCHI 490 is the Health Information Management/Informatics Capstone course. Students complete this course in their final semester of study. The course covers current and emerging topics in Health Informatics and Information Management.
Health Services Administration	<ul style="list-style-type: none"> HSA409 capstone/internship course does not include research, but students spend time out in the field gaining

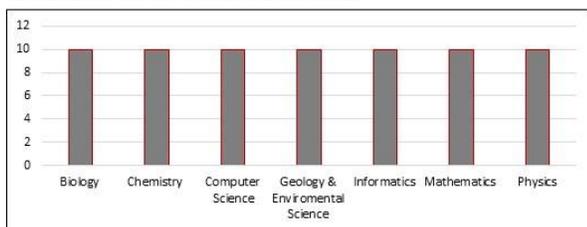
	<p>real-life experience to prepare themselves once they graduate. Depending on where the student's intern, they could be asked to participate in research meetings, projects, etc.</p> <ul style="list-style-type: none"> • HSA program does have a Health Science Research Methods course. The course is online and only eight weeks in length. This is a foundations course introducing health research to the students. • There is a research methodology writing course, but it is completed in 7.5 weeks, this does not provide time to complete research projects.
Pre-Dental Hygiene	N/A

Undergraduate Research & Creative and Scholarly Activity at the University of Louisiana Lafayette 2015 - 2021

The impetus for our first, full report is to establish a baseline measure of undergraduate research (UGR) and creative or scholarly activity (CSA) that are collectively called student research experiences (SREs) at the University of Louisiana at Lafayette. This is a quick map that depicts the program's outputs and outcomes. Capturing current activities and some historic activities, reflecting activity from January 2015 to December 2021.

Ray P. Authement College of Science

Estimated Number of students involved in SREs

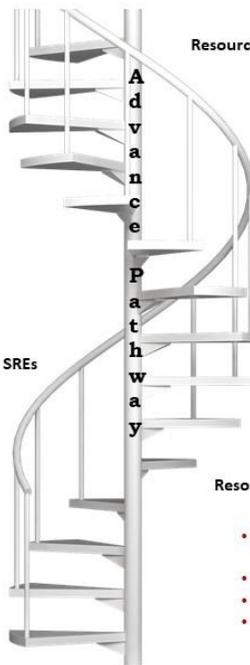


Seminars, Conferences, Performances or Public Meeting and Displays involving SREs

- Biology Undergraduate Research Symposium (BURS)
- Undergraduate showcase in Mathematics
- Physics Departmental Seminar invites undergraduates
- Herman D. Hughes Distinguished Lecture Series
- SMART (Science meets Art) Festival

Capstone Courses, Independent Study Courses

- Biology: introduction to research BIOL 202
- Biology: independent research BIOL 410
- Chemistry: independent research CHEM 362 & 462
- Physics: require two semester of senior level research for graduation



Resources: Faculty participating in SREs (mentored or course embedded)

- 20 of 40 faculty in Biology
- 11 of 16 faculty in Chemistry

Resources: dedicated equipment or physical space

- Undergraduate Research Laboratory: Biology
- Instrument Laboratories: Geology

Resources: funding to students or faculty supporting students

- Outstanding Faculty in the Ray P. Authement College of Science considers undergraduate research
- Bradd Clark Award for Excellence in Undergraduate Research
- 30 – 50 scholarship students work in Biology many complete SREs
- Multiple faculty in Biology have REU funding / programs

Bradd Clark Award for Excellence in Undergraduate Research

The Excellence in Undergraduate Research award is named in honor of Dr. Bradd Clark. Dr. Clark was the fourth dean of the Ray P. Authement College of Sciences. He served as dean from 2001 through 2013. Prior to and after serving as dean he was a professor in the mathematics department.

As Dean of the College of Sciences for twelve years, Dr. Clark was an advocate of undergraduate research. He pushed all the departments to establish a means by which students were able to experience real research by scientists as early as their freshman year. This award is presented to a student who has participated in a substantial amount of documented undergraduate research while maintaining a high GPA. Publication of the research is not a necessity but could enhance chances of winning.

Outstanding Faculty in the Ray P. Authement College of Sciences

The Ray P. Authement College of Sciences is recognized for outstanding teaching and distinguished research. Each year we honor selected faculty for their exemplary performance. Undergraduate research is considered when assigning this award.

Region VI Science and Engineering Fair

Science and engineering fairs are conducted at the local, regional, state, and national levels. Louisiana has twelve Science and Engineering Fair regions to serve students in public, private, parochial, charter, and home schools. Region VI covers Acadia, Evangeline, Iberia, Lafayette, St. Landry, St. Martin, and Vermilion Parishes. The Region VI Science and Engineering Fair is affiliated with the Louisiana Science and Engineering Fair at the state level and with the Intel International Science and Engineering Fair at the national and international level. Students who win top honors at the region VI fair may advance to competition at the state and international levels. The organizers for the Region VI Science and Engineering Fair are Penny Powell of our Department of Biology and Scott Sorrell of our Department of Mathematics.

SMART Festival

The Ray P. Authement College of Sciences of the University of Louisiana at Lafayette is pleased to have hosted two SMART (Science Meets ART) Festivals. The SMART Festival was a celebration of science and art with a focus on the interdependence between art and science in our lives. This family-friendly event provided an opportunity for scientists and artists to share their fascination with the wonders of science and art with our community.

Herman D. Hughes Distinguished Lecture Series

The Ray P. Authement College of Sciences and the College of Engineering is pleased to host The Herman D. Hughes Distinguished Lecture Series. Each spring, we feature a seminar by an eminent scientist who employs interdisciplinary strategies to solve complex problems associated in STEM disciplines. The focus of the Herman Hughes Distinguished Lecture Series is to foster interdisciplinary research between the departments of the College of Sciences and the College of Engineering. In addition, the lectures will enrich our students, faculty, college, and university. Interested parties from outside the college are encouraged to participate.

Table thirteen: Ray P, Authement College of Sciences activity per school or department

Biology	<ul style="list-style-type: none">• Biology has three courses with the primary curriculum consisting of SRE activity: 202 introductions to biology research, 370 special projects in research, and 410 independent research projects.• BURS (see section II of this report).• 20 of 40 faculty mentor undergraduates in their research labs.• 30 to 50 undergraduate UL Lafayette Scholarship students are employed in research laboratories each year. Many of these students complete SREs. The percentage is not recorded.• Funding for undergraduate research is extensive and includes multiple sources of revenue (see section VII of this report).• Houses a designated area identified as the Undergraduate Research Laboratory. This area has specialized equipment required for a variety of biological experiments; undergraduates are prioritized when using the equipment.• Research collaborators work with some undergraduates within the following organizations:<ul style="list-style-type: none">○ Coastal Water Consortium○ National Institute for Mathematical and Biological Synthesis (NIMBioS)○ The National Wetland Research Center○ Global Change Institute, University of Queensland○ Smithsonian Tropical Research Institute○ The Water Institute of the Gulf
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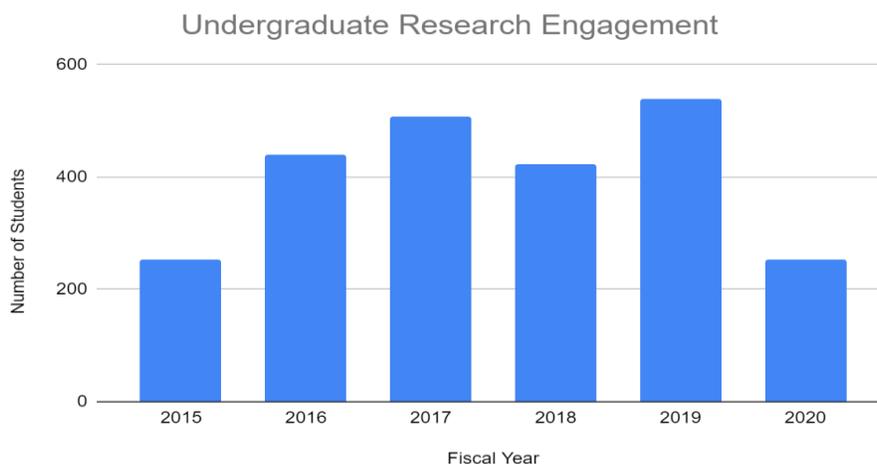
Chemistry	<ul style="list-style-type: none"> • Chemistry has two courses with the primary curriculum consisting of SRE activity (CHEM 362 and CHEM 462). • 11 of 16 faculty mentor undergraduate researchers. • The following faculty accept undergraduate researchers: <ul style="list-style-type: none"> ○ Dr. Thomas Junk ○ Dr. August Gallo ○ Dr. Tolga Karsili ○ Dr. Kathleen Knierim ○ Dr. Febee Louka ○ Dr. Salah Massoud ○ Dr. Ryan Simon ○ Dr. Radhey Srivastava ○ Dr. Eric Taylor ○ Dr. Wu Xu ○ Dr. Hui Yan
Computer Science	<ul style="list-style-type: none"> • Unable to determine the amount of SRE activity occurring. • The REU program noted on the webpage, ended in 2018 (see section VII).
Geology and Environmental Science	<ul style="list-style-type: none"> • An indeterminate number of the 20 faculty members mentor undergraduate research. • Several Instrument Laboratories could allow SRE activity: <ul style="list-style-type: none"> ○ Geochemistry ○ Sedimentary Geology ○ Paleomagnetic ○ Ecosystems research ○ Rock cutting and polishing & Geophysical Equipment
Informatics	<ul style="list-style-type: none"> • Unable to determine the amount of SRE activity occurring.
Mathematics	<ul style="list-style-type: none"> • Two faculty held an undergraduate showcase for math students conducting SRE activity in 2015. • Unable to determine additional SRE activity occurring.
Physics	<ul style="list-style-type: none"> • Undergraduate students complete two semesters of senior research with a research advisor. All Physics faculty participate in SRE activity as part of the required curriculum.

IX. Review of online SRE reports, student testimony, as well as news and events from each University Research Center or Institute

Ernest Gaines Center (located in Dupré Library): <https://ernestgaines.louisiana.edu/>

The mission of the Ernest J. Gaines Center is to foster research and scholarship on the life and works of Dr. Ernest J. Gaines; to archive, house, preserve, protect, and utilize the “Collection of Ernest J. Gaines,” and to make the collection available to scholars in perpetuity. As part of its mission, the Center will collect, catalog, and maintain a body of scholarship surrounding Gaines and his works. The Center also organizes and conducts, as appropriate, colloquia, seminars, and conferences centered upon the Ernest J. Gaines Center and the collection, and sponsors The Ernest J. Gaines Speakers and Readers Series. The Ernest J. Gaines Center embraces its role as guardian of the Gaines legacy.

The mission of encouraging research and scholarship related to the life and works of Dr. Ernest J. Gaines is achieved through several graduate and undergraduate research initiatives. The majority of this work is done through collaborations with professors and instructors in the different academic departments. Most of these collaborations involve class visits to the center and thematic one-day lectures the center’s faculty and staff also offer one-on-one research assistance. Below is a table illustrating the number of undergraduate student engagements from 2015-2020. These numbers are the combination of class visits and research meetings over the past 5 years.



Louisiana Accelerator Center (LAC): <https://lac.louisiana.edu/>

The following undergraduate research projects are available at the Louisiana Accelerator Center (LAC). Many of the projects require use of the Pelletron accelerator at the LAC. Participation in the radiation and accelerator safety training is required for any of the projects.

1. Development of mosaic images of large area samples

(Suitable for a physics student, preferably with some programming skills)

For research on meteorites (with Dr. Manavi Jadhav) and biological tissue samples (with Dr. Karen Smith and Dr. François Villinger) we need to automatically collect trace-element maps with high resolution over large areas. This will be done automating LAC’s MeV ion microscope with the computer-controlled sample stage.

2. Development of in-house monitoring cameras for accelerator beam optimization

(Suitable for physics/engineering student)

Optimization of the accelerator beam requires viewing a number of instruments’ reading. To facilitate remote adjustment of the different components, small short-working-distance intranet cameras will be developed that allow viewing multiple instruments.

3. In vacuum spy-camera microscope

(Suitable for physics/engineering students)

To enable location of areas of interest on samples in our MeV ion Microscope, this project develops an ultra-compact in-vacuum microscope camera. It requires optical design and testing. The device needs to be vacuum qualified and a suitable vacuum feed-through constructed.

4. Image analysis for quantification of granularization in irradiated cells

(Suitable for physics/computer engineering student)

Work at the LAC on cancer therapy development shows that, even at low doses, biological cells undergo profound changes when irradiated. The goal of this project is to apply image analysis techniques to quantify the changes for several well-defined parameters.

5. Understanding the biological context of Ti

(Suitable for a physics/biology/chemistry student who is not squeamish)

Titanium is the 9th most abundant element in the lithosphere, yet it is only present at ppb levels in oceanic water. TiO₂ nanoparticles are ubiquitous in modern society being used in paint, sunscreen, and even cakes. In this project the student will engage in data analysis to measure Ti levels in animal organs, food, urine and fecal matter. The goal is to identify Ti pathways in the body.

6. Chemical- and mineral-phase analysis using GeoPIXE software.

(Suitable for physics/geology/chemistry student)

We use the Geo-PIXE software at the LAC for identification of elements in samples. A feature of this software is that it can also be used to image chemical phases (e.g. of mineral grains). This project will implement and adapt this feature of the software to image chemical phases such as Ag₃Sn and Ag₂Hg₃ (Important in setting of dental amalgam).

7. Construction of an external-beam PIXE system for art and archaeological objects.

(Suitable for mechanical engineering student)

Archaeological and object d'Art samples cannot be analyzed in vacuum due to their large size and liability. External beam Particle Induced X-ray Emission (External-PIXE) provides a way to measure the elemental composition of pigments, metal details, and ceramics. This project constructs and tests an external-beam PIXE system for analysis of these samples.

8. Autofocusing of a MeV ion microprobe

(Suitable for a mechanical/chemical engineering/computer science/physics student student)

Focusing a MeV ion microprobe is quite different from focusing conventional optical and electron beams. A procedure that uses Fourier optics numerical image processing is used to produce a metric of how well the beam is focused in the x and y directions. The goal of this project is to adapt this to control the lens currents for the x and y direction to autofocus the image.

Reports from each center should be included here. Some Centers or Institutes may not be suitable for working with undergraduates.

Table fourteen: list of Centers and Institutes

Center or Institute
Cecil J. Picard Center for Child Development and Lifelong Learning (PCCD)
Dr. Karen Burstein
Center for Analysis of Spatial and Temporal Systems
Dr. Xiaoduan Sun, Acting Director
Ecology Center (CEET)
Dr. James Nelson, Director

Energy Institute of Louisiana – Dr. Mark Zappi, Director
Environmental Training Center Taz Wininger, Director
Informatics Research Institute (IRI) – Dr. Henry Chu, Executive Director
Center for Business and Information Technologies (CBIT) Matthew Delcambre, Director
Center for Business and Information Technologies (CBIT) Matthew Delcambre, Director
Center for Critical Infrastructure Cybersecurity (CCIC) Dr. Arun Lakhotia, Director
Louisiana Center for Health Innovation (LCHI) Dr. Ziad Ashkar, Director
National Incident Management Systems and Advanced Technologies (NIMSAT) – Director Vacant
NSF Center for Visual & Decision Informatics (CVDI) Dr. Vijay Raghavan, Director
Institute for Coastal and Water Research (ICaWR) Dr. Edwin Theriot, Director
Institute for Materials Research and Innovation Dr. Xiao-Dong Zhou, Director
Louisiana Immersive Technologies Enterprise (LITE)
Louisiana Watershed Flood Center Dr. Emad Habib, Director
Marine Survival Training Center (MSTC) Mr. Terry Cromwell, Interim Director
Microscopy Center (Link) Dr. Tom Pasacreta, Director
National Wetlands Research Center Jim Reilly
New Iberia Research Center (NIRC) Francois Villinger, Director

Procurement Technical Assistance Center (PTAC)
Sherrie Mullins, Director
Regional Application Center (RAC)
Brent Yantis, Director
University Research Park and Research Activities
Director Vacant

X. Undergraduate research funded through faculty grants: data from The Office of Research and Sponsored Programs and Institutional Research

(This report reflects projects tracked from 2010 until January 1, 2022)

The university tracks the number of National Science Foundation (NSF) Research Experiences for Undergraduates (REU) and Supervised Research Experiences for Undergraduates (SURE) through the Board of Regents, and other research grants involving undergraduates. Table five records NSF or NSF-REU grants.

UL Undergraduate Research Mini-Grant program

The goal of the UL Undergraduate Research Mini-Grant program is two-fold: to ensure that the undergraduate students at the university benefit from the university’s growing research and development program, and to improve student outcomes by facilitating undergraduate research. Approximately 20 mini-grants were given each year between 2015 and 2021, total of 128 grants. Each grant is \$2,000, and on average, 1 to 5 undergraduates work on a single grant.

REU additions to NSF grants and SURE grants: as documented in supporting OEP report (2015 – 2018)

Table Fifteen: record of NSF involving undergraduate researchers or NSF-REU grants

<u>Grant Title</u>	<u>Principal Investigator</u>	<u>College</u>	<u>Dept</u>	<u>End Date</u>	<u>Agency</u>
REU Site: Healthy Streams, Healthy Coasts	Costigan, Katie	Sciences	Geoscience	6/30/20	NSF
REU Site: Research Experience for Undergraduates in Advanced Infrastructural Materials	Zhang, Qian	Engineering	Civil Engineering	3/31/21	NSF
High Performance Bolted Slip-Critical Connections	Fadden, Matthew	Engineering	Civil Engineering	12/31/15	LA-BOR
MRI: Development: A Distributed Visual Analytics Sandbox for High Volume Data Streams	Gottumukkala, Narasimha	VP Research	Center for Visual and Decision Informatics	7/31/19	NSF

I/UCRC Phase II Renewal: Center for Visual and Decision Informatics (CVDI)	Raghavan, Vijay	VP Research	Center for Visual and Decision Informatics	2/28/22	NSF
REU Supplement: MRI: Development: A Distributed Visual Analytics Sandbox for High Volume Data Streams	Gottumukkala, Raju	VP Research	Center for Business and Information Technologies	12/31/16	NSF
I/UCRC Phase I: Center for the Visual and Decision Informatics (CVDI)	Raghavan, Vijay	Sciences	Center for Advanced Computer Studies	1/31/17	NSF
Cooperative Memory Expansion	Tzeng, Nianfeng	Sciences	Center for Advance Computer Studies	6/30/18	NSF
Collaborative Research	Tzeng, Nianfeng	Sciences	Center for Advance Computer Studies	8/31/18	NSF
CAREER: Making Type Error Debugging Work	Chen, Sheng	Sciences	Center for Advance Computer Studies	1/31/23	NSF
REU: Collaborative Research: Not so Fast - Historical Biogeography of Freshwater Fishes in Central America and the Greater Antilles	Albert, James	Sciences	Biology	6/30/16	NSF
Collaborative Research: ARTS: Integrative Research and Training in Tropical Taxonomy	Fredericq, Suzanne	Sciences	Biology	9/31/16 through 9/31/18 (REU addition funded three separate years)	NSF

REU Programs, SURE awards, and other grants including undergraduates (2019 – Dec. 2021)

Current REU Programs:

- Title and PI, Dr. Suzanne Fredericq REU program
 - Unsuspected eukaryotic life inhabits rhodoliths. REU students added three years 2019 – 2021.
 - Number of undergraduates: 6 students over 3 years.
- Title and PI, Anne Giblin REU program
 - LTER-PIE: Interactions Between External Drivers, Humans and Ecosystems in Shaping Ecological Process in a Mosaic of Coastal Landscapes and Estuarine Seascapes
 - Number of undergraduates: 3
- Title and PI, Dr. Vijay Gopu's REU program
 - Title: REU Site: Research Experience for Undergraduates in Advanced Infrastructural Materials
- Title and PI, John Kominoski
 - LTER: Coastal Oligotrophic Ecosystem Research
 - Number of undergraduates: 1

- Title and PI, James Nelson REU program
 - Title: Collaborative Research: TIDE: Legacy effects of long-term nutrient enrichment on recovery of saltmarsh ecosystems
 - Number of undergraduates: 4
- Title and PI, Dr. Beth Stauffer's REU program
 - Title: REU Site: Healthy Streams, Healthy Coasts: An Interdisciplinary Approach to Watershed Science and Education
 - 16 students over 2 years

SURE programs funded by BoR:

Table Sixteen: SURE grant information from 2020 and 2021

Total Number of Students: 10

FY	PI Name	Project Title
2020	Ferdowsi, Farzad	An LSTM-Based High-Resolution Demand Prediction for Manufacturing Operations
2020	Ferdowsi, Farzad	Investigation of Data-Driven Based Conditioning Monitoring of Induction Motors in Manufacturing Operations
2020	Ferdowsi, Farzad	Utilization of Machine Learning to Improve Manufacturing Processes
2020	Ferdowsi, Farzad	Quality Prediction of Manufacturing Process
2021	Ferdowsi, Farzad	An Embedded-base System for 3D Printing Visual Defect Detection with AI
2021	Ferdowsi, Farzad	Smart Visual Inspection in Testing Polymers
2021	Faisal, MD Tanvir Rahman	Design and Fabrication of 3D Printed Engineered Tissue Scaffold for Bone Healing
2021	Faisal, MD Tanvir Rahman	Fabrication of 3D SLA Printed Construct Using Photopolymer Resin Infused with Hydroxyapatite NP to Mimic Extracellular Matrix
2021	Hei, Xiali	Digital Image Correlation Method (DIC) for AM Process Evaluation and Monitoring
2021	Hei, Xiali	Non-invasive Monitor and Attack Detection for Additive Manufacturing

Other Grants involving undergraduates:

- PI, Nicholas J. Kooyers
 - Funding source: NSF
 - Title: Consortium for Plant Invasion Genomics (CPING): Combining Big Data and Plant Collections to Understand Invasiveness
 - Number of undergraduates: 50 (paid summer research positions)
- PI, Nicholas J. Kooyers
 - Funding source: NSF
 - Title: Empirically evaluating the genomic consequences of assisted migration in heterogeneous environments
 - Number of undergraduates: 15 (5 summer research positions and funding for one student each semester for 5 years)
- PI, James Nelson
 - Funding source: BOEM
 - Title: Ecological Function and Recovery of Biological Communities within Sand Shoal Habitats within the Gulf of Mexico (MM-19-01)
 - Number of undergraduates: 4

- PI, James Nelson
 - Funding source: BOEM
 - Title: Core submission; Development of Restoration Assessment Tools and Educational Products with Drones
 - Number of undergraduates: 2
- PI, James Nelson
 - Funding source: City of Broussard, LA
 - Title: Broussard Assimilation Wetland Monitoring
 - Number of undergraduates: 10
- PI, Kelly Robinson
 - Funding source: Undisclosed
 - Title: Undisclosed
 - Number of undergraduates: 6
- PI, Loren Sackett
 - Funding source: Arizona Game and Fish Department Heritage Fund
 - Title: Uncovering the genomic basis of plague resistance in Gunnison's prairie dogs
 - Number of undergraduates: 2
- PI, Loren Sackett
 - Funding source: UL start-up
 - Conservation and evolutionary genomics research
 - Number of undergraduates: 5
- PI, Beth Stauffer
 - Funding source: Louisiana Sea Grant
 - Title: Effects of Estuarine Freshening on Predator-Prey Interactions in Plankton Food Webs
 - Number of undergraduates: 1
- PI, Beth Stauffer
 - Funding source: Louisiana Sea Grant
 - Title: 2019 Flood Event: Documenting Estuarine Freshening and Changing Plankton Communities as a Result of the 2019 Floods
 - Number of undergraduates: 1
- PI, Beth Stauffer
 - Funding source: Louisiana Sea Grant
 - Title: Understanding the effects of varying prey assemblages on oyster feeding in restoration- and climate-impacted estuaries
 - Number of undergraduates: 4
- PI, Beth Stauffer
 - Funding source: NOAA National Ocean Service
 - Title: THE ALLIANCE FOR COASTAL TECHNOLOGIES: National-Scale Efforts Toward Evaluation of Observing Technologies
 - Number of undergraduates: 1 (since 2020, have supported 2 since 2016)
- PI, Beth Stauffer
 - Funding source: LDWF
 - Title: LO-SPAT: Leveraging Opportunities and Strategic Partnerships to Advance Tolerant Oysters for Restoration
 - Number of undergraduates: 1 (project just started, extensive support for undergraduate research)
- PI, Beth Stauffer
 - Funding source: USGS LWRRI
 - Title: Assessing present and potential effects of cyanotoxins in south Louisiana estuaries
 - Number of undergraduates: 2

- PI, Beth Stauffer
 - Funding source: National Academies of Sciences, Engineering, and Medicine Gulf Research Program Early Career Fellowship
 - Title: n/a
 - Number of undergraduates: 2