

# Reagan Tanner Courville

Baton Rouge, LA | +1 (225) 333-8901 | rcourv8@lsu.edu

## EDUCATION

---

### Louisiana State University (LSU), Baton Rouge, LA

August 2021–May 2025

*B.S. in Mechanical Engineering (Minor in Aerospace Engineering) & B.A. in French*

*GPA: 4.10/4.30*

**Engineering-related Coursework:** Material Science, Thermodynamics, Strengths of Materials, Simulation Methods, Mfg. Processes, Statics, Dynamics, Circuits, Electronics, Fluid Mechanics, Kinematics, Instrumentation & Measurements, Heat Transfer, Material Selection, Component Design, Controls, Materials Lab, Machine Design Lab, Thermal Systems Lab, Aerodynamics, Flight Mechanics

**French-related Coursework:** Intro to French Literature, Advanced Oral Communication, Advanced Grammar & Composition, French Literature I & II, Culture & Civilization, French Film, 19<sup>th</sup> Century Literature

**Computer Skills:** SolidWorks, Fusion 360, Creo, DynamicStudio, MATLAB, Excel, ANSYS, COMSOL Multiphysics

## EXPERIENCE & AWARDS

---

### Los Alamos National Laboratory SULI Intern

Summer 2024

*LANL, Los Alamos, NM*

*Mentor: Dr. Alonso Castro*

- Worked directly under mentor in the Chemistry division's Actinide Analytical Chemistry (C-AAC) group on the 2023 R&D 100 awarded Fieldable Atomic Beam Isotopic Analyzer (FABIA) instrument in Department of Energy's Science Undergraduate Laboratory Internships (SULI) program.
- Redesigned heating component that secured a micro-crucible used to generate a monatomic beam of actinide sample on which laser absorption spectroscopy (LAS) was performed. Performed trade studies analysis for contending designs. Used SolidWorks to rework the geometries, COMSOL Multiphysics to simulate the joule-heated testing environment.
- Programmed current controller to drive onboard diode laser, accounting for wavelength modulation required for LAS. Assessed performance and compared to previous device configuration versions.
- Presented in a SULI-specific project showcase and LANL Student Symposium 2024. Submitted research report, general audience abstract and peer-review assessment as requirements for SULI program.

### NASA Academy Research Associate

Summer 2023

*Langley Research Center, Hampton, VA*

*Director: Dr. Elizabeth Ward*

- Worked in a multidisciplinary cohort of 16 students to develop aids for frontline wildfire mitigation efforts during a 10-week program, within the Aeronautics Research Directorate under the System-Wide Safety Project
- Developed the Compact Lightweight Aerial Sensor System (CLASSy) to provide comprehensive decision support to frontlines firefighters or other natural disaster relief efforts by collecting and transmitting vital environmental information, with an emphasis on a lightweight, low-cost design. Developed the overarching systems architecture of this project as well as the design of the descent system. (Current version of the report can be found on NASA Technical Reports Server: <https://ntrs.nasa.gov/citations/20230011971>).
- Aided in designing a model to be used in lander design that accounts for slosh mechanics of on-board liquid fuels

### Undergrad Researcher — Energy and Propulsion Lab

Fall 2022–Present

*Louisiana State University, Baton Rouge, LA*

*Employer: Dr. Shyam Menon*

- Area of research: Use of laser diagnostic techniques to characterize enclosed flow fields, current emphasis on particle image velocimetry and planar two-color laser-induced fluorescence in thermometric applications

**Treasurer for Tau Beta Pi (Louisiana-Alpha)****Fall 2023–Present***Louisiana State University, Baton Rouge, LA**Faculty Sponsor: Dr. Keith Gonthier*

- Responsible for managing all club finances, including transactions and required financial reports
- Organized funding opportunities for the club. Managed graduation regalia.

**Tutor for EXCELD (EXcellence in Calculus/STEM for Engineering Leadership & Diversity)****Spring 2022–Fall 2022***Louisiana State University, Baton Rouge, LA**Employer: Dr. Elizabeth Melvin*

- Tutored PHYS 2110 (Particle Mechanics) and assisted students with reinforcing concepts
- Tasked with holding weekly group sessions to promote collaborative and discussion-based learning efforts

**International Literary Competition Prize Awardee/Juried Publication****Winter 2022–23***Concours de Contes Merveilleux de la Louisiane – Shreveport, Louisiana**Publisher: Les Éditions Tintamarre**Title of Piece: “Dans les bras de l’ouragan”**Director: Dr. Dana Kress, Centenary College of LA*

- Awarded 1<sup>st</sup> place prize (Prix Tintamarre) for Louisiana-styled folktale submission in international writing competition, sponsored by CODOFIL, Centenary College of LA, University of Louisiana at Lafayette, La Fondation Louisiane, and others
- Received publication for competition piece, judged by Barry Ancelet, Zachary Richard, and Kirby Jambon

**NASA’s L’SPACE Program — NPWEE (NASA Proposal Writing & Evaluation Experience)****Spring 2022***Arizona State University, Tempe, AZ**Points of Contact: Sheri Klug Boonstra & Dann Garcia*

- Tasked with writing a proposal for innovation that could be useful to NASA’s current operations
- Subject of interest: self-assembling 2D polymer in micro-meteoroid and orbital debris shielding applications

**LSU in the French Alps Program (French Immersive Study Abroad)****Summer 2022***Paris, France – Barcelonnette, Provence-Alpes-Côte d’Azur, France**Director: Dr. Carla Vance*

- Presented on the historical significance of the Panthéon and Quartier Latin in Paris & on the disappearance of regional dialects as a result of the standardization of the French language
- Interned at various local shops in the commune of Barcelonnette

**LSU Distinguished Communicator Award Candidate****2022–Present***Louisiana State University, Baton Rouge, LA**Faculty Advisor: Dr. Shyam Menon**CxC Representative: Boz Bowles*

- Completed the majority of required communication-intensive coursework as a part of LSU’s Communication across the Curriculum (CxC) program.
- On track to graduate in May 2025 with award that demonstrates effective communication skills.

**LSU Distinguished Researcher Award Candidate****2022–Present***Louisiana State University, Baton Rouge, LA**Research Professor: Dr. Shyam Menon*

- Completed 400+ hours of research experience through LSU undergraduate research along with NASA and LANL internships.

**SKILLS & ACTIVITIES**

Bilingual in English and French

Member of Tau Beta Pi (2022–present)  
(LA-Alpha chapter)Member of American Institute of Aeronautics and  
Astronautics (2021–present)Mentor in LSU Engineering Department’s Big Sibling  
Program (August 2022–present)Member of American Society of Mechanical Engineers  
(2021–present)Member of LSU’s French Club *Le Cercle Français*  
(2021–present)

Participant in the Running Club (2021–2022)

Member of National Honor Society (2019–2021)