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Respondent

30 Anonymous

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Time to complete

Application Information

1. Name: *

Jann Vendetti & Shelley Thai

2. GCC Title/Position: *

Adjunct Instructor or Biology & Professor of Biology

3. Department: *

Biology

4. Campus: *

- (●) Verdugo
- ( ) Garfield

5. E-mail: *

jvendetti@nhm.org

6. Phone: *

510 717-3717

7. Dean or Department Head's Name: *

Dr. Francisco Javier Gago

Project Proposal

8. Name of Project/Program: *

Transformative student research opportunities in Biology at GCC

9. Please select which category best describes your project: *

- ( ) Arts & Culture
- ( ) Athletics & Fitness
- ( ) Career & Work Training
- ( ) College Operations & Facilities
- ( ) Humanities/Social Sciences
- (•) Science & Technology

10. Amount requested: *

$9,360.00

11. What do you propose to do? *

Dr. Shelley Thai and Dr. Jann Vendetti propose continuing two unique and transformative research courses in Biology at GCC. One is Biol 50, a Research Internship in Biological Sciences at the Natural History Museum of Los Angeles County (hereafter 'Museum') with adjunct GCC Biology instructor, Dr. Vendetti. This course is also taken commonly by students after they have taken it twice (the limit) as Biol 49: Independent Study. The other is GCC's Biol 298 – Undergraduate Research in Microbiology and Molecular Biology, with GCC Biology professor, Dr. Thai. The Glendale College Foundation has funded Biol 50 since 2020, enabling remarkable experiences for dozens of GCC students and preparing them for transfer, graduate school, and careers in the natural sciences. Requested funding for Biol 50 would cover expenses for DNA extraction, gene sequencing, and conference attendance for interns working on projects in systematics and phylogenetics; Biol 298 funding would enable student conference registration, travel expenses, and poster printing.

Glendale College Foundation funding would continue to allow authentic research and networking experiences in a capacity rarely provided by a community college. The track record of productivity for Biol 50 interns includes a published paper with three student co-authors, thirteen student co-authored abstracts, and five manuscripts currently in preparation with current or former GCC student co-authors. Similarly, for Biol 298, student researchers have published a paper in the Journal of Bacteriology (with 22 student co-authors) with their work featured on the journal cover, more than 40 student co-authored abstracts, and presentations at various local and national conferences (e.g., American Society for Microbiology). Dr. Thai is currently working on a manuscript based on student discoveries in Biol 298, with 128 student co-authors. We are tremendously grateful for previous Foundation funding and would like to enable current and future GCC students to have these enriching and unique experiences.

12. Who will be involved in the project/program? *

Dr. Shelley Thai (GCC Professor of Biology) and Dr. Jann Vendetti (GCC Adjunct Instructor in Biology) and their students in Biol 50, Biol 49 and Biol 298. Jann usually teaches Biol 50/Biol 49 four times per calendar year: Winter Session, Spring, Summer, and Fall. In 2025–26, Jann taught one student in Summer; two in Fall; four in Winter, and four in Spring. Shelley teaches Biol 298 once or twice per year, within the Biotechnology emphasis within the Biology department. Her courses have 20–24 students.

13. What are the benefits of this project/program to the students, college, and the community? *

For students, Biol 50 and Biol 298 provide useful research skills often taught only in graduate programs, i.e., literature review, research methods, research equipment use, experimentation, data analysis, research presentations, and manuscript co-authorship. Students use these formative experiences to build their CVs and can rely on Drs. Thai and Vendetti for other internship and job referrals, recommendations, and career advice.

For GCC, these courses prepare students for future training and success in biology, build a GCC Biology program that attracts prospective students, and contribute to successful alumni, as many alumni have gone on to successfully attend graduate and professional programs, (e.g., M.D., P.A., Ph.D.).

For the community, the efforts of Biol 50 interns are diverse and wide reaching. For example, GCC Biol 50 interns have created "pop up" exhibits for the Museum's 'Haunted Museum' public program; created Scanning Electron Microscope (SEM) images for collaborators, their own projects, the Museum newsletter, and potential exhibits; collected invasive gastropods at the Huntington Botanical Gardens in collaboration with the California Department of Food and Agriculture; and produced genetic data from introduced/invasive snail species, enabling analysis of their pathway(s) of introduction. Within the 2025–26 Biol 50 cohorts, interns collected molecular data from recently collected Antarctic invertebrates, some of which will be the first DNA sequences for these species to be publicaly available (via the database GenBank); imaged shell structure in native California mussels using SEM in collaboration with a professor at Pomona College; imaged local plant pollen using SEM (some, we think, for the first time), and contributed to the first ever molecular phylogenetic analysis of Banana slugs (genus Ariolimax), likely identifying a new species.

14. How does this project/program support the College's Institutional Strategic Plan? *

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GCC is likely the only community college in the U.S. to have such a close partnership with a large natural history museum (Biol 50) as well as provide certification-quality coursework in biotechnology (Biol 298). Both directly support the Institutional Strategic Plan to "(E.4.) Increase and improve professional development opportunities for…students to develop technology skills and other topics prioritized by the Institutional Master Plan." Within the Master plan, this project meets the goals of "Increasing demand for training in new technologies", and "statewide calls for offering more workforce development and career-oriented programs" (both pg. 28 of GCC Institutional Master Plan 2018–2025).

Related to the objectives above, student projects developed within both courses have the potential to be published and are well-suited for GCC students to present at local, regional, or national meetings such as; the Southern California Conference for Undergraduate Research (third Saturday in November); Honors Transfer Council of California (HTCC): UCR Community College Honors Research Conference (March or April), Bay Area Honors Symposium (early May), Southern California Academy of Sciences (Saturday in late April or early May); GCC Student Research Symposium (first Monday in May), the Summer Research Conference at UC San Diego (mid August), and the American Society for Microbiology (early June).

15. Timeline for the project/program. *

For both courses: Mid-late Summer 2026 – Spring/early Summer of 2027.

16. How do you propose to use the funds requested? Please include specific budget information. *

Molecular & laboratory supplies essential to research projects; conference registration fees, travel and poster printing for students to attend and present their work at research conferences. Please note that the itemized estimates below are pooled between Dr. Vendetti's and Dr. Thai's courses.

Funds for 2026: $5,130: Reagents for DNA extraction kit (250 extractions, Qiagen DNEasy): $500; 144 DNA extracts sequenced (three 96-well plates [standard size]): Vendors: (Eton Bioscience, Inc. https://www.etonbio.com/, $360/plate; Functional Biosci https://functionalbio.com/pricing $360/plate; Europhins, https://eurofinsgenomics.com/en/products/dna-sequencing/price-list/ $480/plate, $1080 (at $360/plate), FedEx specimen plates to sequencing lab ($50/each): $150, laboratory materials: $400, miscellaneous costs (welcome lunch, gas card for student travel reimbursement to conferences, etc.): $200, Conference registration: $1,400 (~18 students), Poster printing: $90/poster x 10 posters = $900, Travel lodging (hotel): 2 rooms, one for each gender; $500 (non-local conferences).

Funds for 2027: $4,230: DNA extraction kit (250 extractions): $500; 144 DNA extracts sequenced (three 96-well plates), $1080 (using $360/plate), $150, FedEx specimen plates to sequencing lab ($50/each); Laboratory materials: $300, Research publishing costs: $500, Conference registration fee: $750 (6–10 students), Poster printing: $90/poster x 5 = $450, Travel lodging(hotel): 2 rooms, $500 (non-local conferences).

Total requested: (2026) $5,130 + (2027) $4,230 = $9,360

17. Please list any other sources of funding you have applied for and include dollar amounts if already awarded. *

None.

18. How will the Foundation's support be recognized? *

The Foundation will be named in all published research papers, posters, and oral presentations. For example, in all presentations at 2025–26 conferences, Biol 50 interns included in their presentation slides or posters, "Special thanks to the Glendale College Foundation who funded this study". Drs. Vendetti and Thai are open to discussing other ways to acknowledge the Foundation, should the Foundation have additional ideas. Previous Foundation funding has made so much student research and so many research-related opportunities possible.

19. How do you plan to evaluate this project's success? *

Success will be evaluated by the outcomes of research projects as well as student engagement. The goal for Biol 50 and Biol 298 students is to have a research abstract accepted and presented at a scientific conference during, or up to two semesters after, their research experience. Given that all students will contribute to research projects, the long-term goal is for 90% of interns and research students to be co-authors on abstracts and scientific publications that are the products of their work and for 75% or more to continue research of some kind when they transfer.

20. If your project/program is successful, how will it inform your practice moving forward? *

Success in these courses will inform our continued mentorship and support of GCC students and enable us to each continually hone an effective, creative, and adaptable mentorship style. We also anticipate describing this program and its success to other faculty at GCC and elsewhere as a model of mentor to mentee training in STEM.

21. Please provide a 2 – 3 sentence summary of your project proposal. *

This proposal requests supplemental funding for two GCC courses in Biology; one at the Natural History Museum of Los Angeles County, the other as part of GCC's unique Biotechnology program. Both are unique and potentially transformative for students, who work on publishable research projects, which they present at one or more scientific conferences. Both courses prepare GCC students for research opportunities at 4-year colleges and universities, develop their laboratory skills and techniques, inspire their scientific interest, build their confidence to do hands-on research, and equip them for careers in the biological sciences.

Signature and Acknowledgments

22. I hereby acknowledge/certify: *

- [x] My Dean or department head is aware of this application and has authorized its submission.
- [ ] If my proposal involves the hiring of temporary/contracted professionals, I will obtain approval from Human Resources before proceeding and will provide documentation to the Foundation that the hiring/contracting has been reviewed and approved.
- [x] If my proposal involves conference and/or other travel, I will complete the GCC travel approval process and adhere to GCC travel guidelines.