

Short, Descriptive Title

(See SACSCOC summary page of QEPs for examples: <https://sacscoc.org/quality-enhancement-plans/>)

VIP: Transforming Students' Learning with Vertically Integrated Projects

Vision/Rationale/Statement of the Problem: Summary of Your QEP Idea

(Please include evidence, internal and/or external to GC, to explain why this topic is important, meaningful, and significant, and related to student success. Include references where applicable.)

Centuries of tradition have produced institutional silos, reinforced by layers of policy and cultural differences between academic departments, between colleges, and between academic and non-academic units. Successful multidisciplinary programs require programmatic and administrative innovation that meet faculty, student and institutional needs and leverage available resources. The Vertically Integrated Project (VIP) model, in place at over forty institutions, has achieved notable success in these areas [1]. The VIP Program is a transformative approach to enhancing higher education by engaging undergraduate and graduate students in ambitious, long-term, large-scale, multidisciplinary project teams that are led by faculty. The program has been rigorously evaluated and refined over more than two decades (<https://www.vip.gatech.edu/publications>).

Georgia College is well positioned to consider VIP as its next QEP. In its simplest form VIP is the next revolution in mentored undergraduate research and creative endeavors. Being recognized as the recipient of the 2020 Council on Undergraduate Research Award for Undergraduate Research Accomplishments (CUR- AURA Award) GC has a strong foundation and the infrastructure to implement VIP. We have already implemented several projects that encompasses the essence of VIP. Project LUMA and GC Nudge Unit are two classic examples that we have implemented here at GC where students from different disciplines worked together making substantial contributions to real-world projects which continue to evolve over several years.

(LUMA Project: <https://www.youtube.com/watch?v=s8pvmfBLCV4>)

(GC Nudge Unit: <https://frontpage.gcsu.edu/node/8760>)

As the designated public liberal arts university in the State of Georgia, GC is uniquely positioned to make our mark within the VIP Consortium (a non-profit alliance established to support & promote the success of VIP in colleges and universities worldwide in over 40 universities with 4,500+ students participating per term around the globe including Georgia State, Georgia Tech, and the University of Georgia - <https://www.vip-consortium.org/>). Georgia College will be among the first liberal arts institutions to implement this VIP Program. The VIP program will not only help us to elevate the status of GC and recruit the best and the brightest students, faculty, and staff but will also help to showcase the efforts of our students, faculty, and staff at a global level.

During the Inaugural State of the University Address, President Cathy Cox challenged us to raise our sights and invited to ask ourselves, "What do we aspire to be and where do we go from

here?” President Cox further said “...adapt and customize to differentiate our university in strategic ways to take us to the next level of excellence”. The Vertically Integrated Projects program could be the program that we can adapt and customize to differentiate our university in strategic ways to take us to the next level of excellence.

[1] Amoo, M. E., Bringardner, J., Chen, J. Y., Coyle, E. J., Finnegan, J., Kim, C. J., ... & Ward, B. C. (2020, June). Breaking Down the Silos: Innovations for Multidisciplinary Programs. In 2020 ASEE Virtual Annual Conference Content Access.

Expected Outcomes

(What are the anticipated student learning outcomes related to student knowledge, skills, behaviors, and/or values?)

In VIP, teams of undergraduate students – from various years, disciplines and backgrounds – work with faculty and graduate students in their areas of scholarship and exploration. Students earn academic credit and can participate for multiple semesters, with returning students taking on mentoring, leadership, and/or additional responsibilities relevant to their fields of study. The long-term nature of VIP creates an environment of mentorship, with faculty and graduate students mentoring teams, experienced students mentoring new members, and students moving into leadership roles as others graduate. “Vertical Integration” refers to team composition, with teams including freshmen, sophomores, juniors, seniors, graduate students, post-doctoral researchers, and faculty. Faculty build VIP teams around their own interests, so they bring their expertise and enthusiasm to their teams. In turn, VIP teams attract students from many disciplines and enable the completion of ambitious projects, which strengthen and expand faculty portfolios. Teams are established by faculty request and last many years (if not indefinitely). Because each team lasts longer than any single student, new students get up to speed on the project each semester, and returning students help mentor newcomers. The long-term nature of the program provides the time and context for the following student learning and student success outcomes:

Students will:

- gain deeper insights into their field of study;
- acquire breadth by working with people from other disciplines and backgrounds;
- learn and practice professional skills;
- make substantial contributions to real-world projects;
- and experience different roles and responsibilities on at team.

Student Population

(The QEP does not have to involve all students but it should include a significant and substantial portion of the student population or sub-population. Please describe which students will be primarily involved in this QEP.)

According to GC Journeys Annual Report, 2325 students participated in mentored undergraduate research in 2019-2020. Historically, freshmen and sophomores are not involved

with undergraduate research in most disciplines. However, VIP encourages and builds its framework to include freshmen and sophomores to be part of VIP teams. Students are also not restricted to participate in VIP teams in their respective major but can join teams outside of their major as well. At the time of this proposal submission, six departments (Biology, Chemistry Physics and Astronomy, Economics and Finance, English, Music, Psychological Science) have expressed their interest to set up VIP Teams and become part of the VIP program. Most of the teams encourage student's participation outside of their respective departments (<https://www.gcsu.edu/vip/teams>). VIP program is not making any changes to existing undergraduate research practices at Georgia College but further improves it by providing additional resources, infrastructure and exposure encouraging students to participate in VIP projects. For example, VIP program will intentionally reach out to students to join VIP teams of their choice promoting existing and new projects. Research from other institutions on VIP program indicate that VIP Program eliminated Inequity with gains for all races/ethnicities and compensatory gains for underrepresented minority and Asian student (Research data provided as separate document uploaded with the application). Therefore, it is likely that the VIP Program will directly or indirectly will benefit at least or more than 2325 students at GC.

Strategies/Actions/Activities

(What are the major anticipated activities, programs, projects that will students, faculty, staff will engage in for this QEP?)

Key elements of VIP program include

1. Projects are based on faculty mentor's scholarship and exploration.
2. Projects are long-term and large-scale, continuing for many years, even decades.
3. Program is curricular and all participating students are graded (A-F; not P/F or S/U).
4. Students can participate and earn credits toward their degrees for at least two years.
5. Learning outcomes focus on the development of both disciplinary and professional skills.
6. Multi-disciplinary teams are encouraged.
7. Dedicated classroom and meeting spaces.

VIP program is already in the first phase, with 7 VIP teams formed. If selected as the next QEP, VIP program at GC will have at least 12 functional VIP teams at the time of launching the QEP in 2024. We expect a growth of at least three teams per academic year. Only public presentation done at GC on VIP as of now was a presentation during the GC Journeys symposium held on October 29, 2021. This presentation alone generated interest from faculty members across 6 departments and as of now we have at least 7 VIP teams.

VIP participants will have their work publicly displayed either during the annual GC Research Day or on an event specifically dedicated for VIP program. In addition to that, respective participants will share their work in appropriate venues including national and international conferences and competitions. Based on the growth of the VIP program we may consider having our own GC Inventure Competition (modeled after Georgia Tech: <https://inventureprize.gatech.edu/>). Team members of project LUMA participated in the inaugural Georgia Inventure Competition organized by the Georgia Chamber of Commerce in 2019.

Possible Means of Assessing Outcomes/Activities

(How will we demonstrate student learning and student success?)

VIP program has been rigorously evaluated and refined over more than two decades over different institution types in different countries. There are already developed and validated rubrics used by the members of the VIP Consortium we can readily use to assess and demonstrate student learning and success. Recent studies of VIP program at Georgia Tech further shows that, in contrast to the national trend, the VIP Program at the Georgia Institute of Technology enrolls representative proportions of Black/African American students and Hispanic/Latino students with respect to the campus population. Findings of this study indicate that students of different races and ethnicities persist in the VIP course sequence at equal rates student persistence in the VIP course sequence with respect to race and ethnicity [2]. The VIP model is unique, in that it fully engages faculty; is cost effective, building on existing faculty research interests and efforts; and is fully scalable, with the potential to serve every student at a given institution.

We also plan to survey VIP faculty and students to assess their satisfaction and appreciation for the program, and then, survey all faculty regarding their perceptions and interest in participating in such a program.

[2] Sonnenberg-Klein, J., Coyle, E. J., & Abler, R. T. (2018, April). Diversity and Student Persistence in the Vertically Integrated Project (VIP) Course Sequence. In 2018 CoNECD-The Collaborative Network for Engineering and Computing Diversity Conference.

Anticipated Resources Needed

(What dedicated resources might this QEP need including personnel, financial, dedicated time, space, materials, etc...)

One of the significant financial needs for implementing VIP will be the seed funding that we can consider providing for new VIP teams. If we provide \$ 3000 seed funding for each new VIP team and anticipate at least 3 new teams for five years it will cost around \$ 45,000. Also, funding will be required to market and promote the program within GC and share its findings at national and international conferences. However, additional funding can be secured from other external resources. For example, GC was able to receive a grant of \$ 25,000 from Georgia Research Alliance to implement VIP Program at GC.

The VIP Program Director will work with the Associate Provost for Transformative Experiences and academic department chairs to coordinate respective VIP teams and students and will have a course release assigned from the respective department.

Finally, we could consider providing a dedicated classroom for VIP participants and can work with the university active learning classrooms committee to request any improvements if needed. Costs may not incur through QEP for this activity.