UPCC Agenda
3 December 2020
MS Teams Meeting

Approval of Agenda

Approval of October 22nd UPCC Minutes

Curriculum Review
Office of Research
Amy Buddie

☐ RES 4000 (New Course) Note: This proposal is not in Curriculog.

College of Science and Math- Kris DuRocher, Ken Keating, Linda Galloway

☐ DATA 1501 (New General Education Course)
☐ MATH 1001 (New General Education Course)

College of Humanities and Social Science
Interdisciplinary Studies – Griselda Thomas

☐ AADS 3310 (New Course)
☐ AADS 3400 (New Course)
☐ AADS 3520 (New Course)
☐ AADS 3550 (New Course)
☐ AADS 4100 (Prereq/coreq)
☐ AADS 4400 (Prereq/coreq)
☐ AADS 4499 (Prereq/coreq)
☐ African & African Diaspora Studies Minor (catalog description/program requirements/electives)

College of Computing and Software Engineering
Information Technology – Hossain Shahriar

☐ IT 1324 (course discontinuation)
☐ IT 4123 (course discontinuation)
☐ IT 4203 (course discontinuation)
IT 4213 (course discontinuation)

WB 1100 (course discontinuation)
WB 1310 (course discontinuation)
WB 2000 (course discontinuation)
WB 2300 (course discontinuation)
WB 2311 (course discontinuation)
WB 3010 (course discontinuation)
WB 3110 (course discontinuation)
WB 3111 (course discontinuation)
WB 3200 (course discontinuation)
WB 3400 (course discontinuation)
WB 3410 (course discontinuation)
WB 3500 (course discontinuation)
WB 3510 (course discontinuation)
WB 3600 (course discontinuation)
WB 4020 (course discontinuation)
WB 4030 (course discontinuation)
WB 4112 (course discontinuation)
WB 4120 (course discontinuation)
WB 4520 (course discontinuation)
WB 4601 (course discontinuation)
WB 4602 (course discontinuation)
WB 4610 (course discontinuation)

Southern Polytechnic College of Engineering and Engineering Technology
Mechanical Engineering – Mahesh Gupta / Richard Ruhala

ME 3701 (course description, credit hour distribution)

ENGR 3125 (prereq/coreq)

College of Computing and Software Engineering
Computer Engineering – Kevin McFall

CPE 4903 (prereq/coreq)

Software Engineering and Game Development – Paola Spoletini

CSE 1311 (course discontinuation)
CSE 1312 (course discontinuation)
Computer Science – Coskun Cetinkaya

☐ CS 4308

Software Engineering and Game Development – Sumanth Yenduri / D. Michael Franklin

☐ CGDD 4242 (New Course)

☐ Computer Game Design and Development, BSCGDD (program requirements)

College of Computing and Software Engineering

Information Technology – Hossain Shahriar

☐ IT 4493 (New Course)
☐ IT 4603 (course title, course description)
☐ IT 4613 (course title, course description)
☐ IT 4623 (course title, course description)
☐ IT 4633 (course title)
☐ IT 4723 (course description, prereq/coreq)

☐ Information Technology, BAS (electives)
☐ Information Technology, BSIT (concentration/track)

Southern Polytechnic College of Engineering and Engineering Technology

Mechanical Engineering – Richard Ruhala

☐ Batch – ISYE 3801, ISYE 3802, ISYE 3803, ISYE 4801, ISYE, 4802, and ISYE 4803, ISYE (course prefix)

College of Humanities and Social Science

English – Darren Crovitz

☐ ENED 4650 (prereq/coreq)
☐ ENED 4660 (course description, prereq/coreq, credit hour distribution)

College of Humanities and Social Science

Interdisciplinary Studies – Heeman Kim
College of Science and Mathematics

Physics – Kisa Ranasinghe

☐ PHYS 3011 (new course)
☐ PHYS 3210 (course title, prereq/coreq, credit hour distribution)
☐ PHYS 3710 (course description, credit hour distribution)
☐ PHYS 4200 (course description, credit hour distribution)
☐ PHSY 4210 (course title, course description, prereq/coreq, credit hour distribution)
☐ PHYS 4260 (new course)
☐ PHYS 4230 (prereq/coreq)
☐ PHYS 4270K (New Course)
☐ Physics, BS

Next UPCC Executive Committee – Thursday, January 14th at 12:30

Next UPCC Meeting – Thursday, Jan. 28th at 12:30pm
New Course v5.0

General Information

IMPORTANT NOTES BEFORE YOU BEGIN

For detailed assistance, please enable help text by clicking the icon at the top of the page. This form serves as the approval process of record for new course proposals at Kennesaw State University. For this process and others you will find policies at the KSU Curriculum website. Direct all questions concerning this form and others to curriculog@kennesaw.edu

Please refer to the Reviewer Guidelines on the Curriculum Checklist and Guidelines website when reviewing the content of this proposal. By approving this proposal to the next step in the approval process workflow you are certifying that you have read all content and affirm that all criteria have been met.

Implementation Term/Year: Fall 2021
Type of Course: Directed Study
Classification of Course: Upper Division
Department of Ownership: Office of Research

Please identify all programs that will be impacted, and indicate where in the curriculum this course will be used:

All undergraduate programs. Similar to Directed Study or Directed Methods, it is not a requirement for any degree program, but it can be fit into the curriculum as departments see fit.

*In order to add this course to all impacted curriculum, please be sure to submit a Change to Existing Program proposal form for each program using this course. Failure to complete these additional forms will result in a delay in approval of this course.

If you have questions regarding if a Change to Existing Program proposal form is required, please contact curriculog@kennesaw.edu

Course Information

Level of Course: Undergraduate
Prefix: RES Number: 4000
Title: Vertically Integrated Projects

Please indicate in the boxes below the credit hour distribution for this course. If the course will be variable in credit please be sure to include minimum and maximum values in each box. 0 – 3-12 – 4
Prerequisites: None
Concurrent Prerequisites: None
Corequisites: None
Catalog Description: Multidisciplinary course supporting faculty research. Can participate multiple semesters. Students will have strong foundations within discipline, pursue further knowledge/skills, make meaningful contributions, and assume significant technical/leadership responsibilities.

How often will this course be offered? Every semester/term

Type of Delivery:
Marietta or Kennesaw Campus: Face-to-Face
Off-Campus Instructional Site: Face-to-Face
Fully at a distance: online
Hybrid

Course Title for Transcript Label (30 character limit): Vertically Integrated Projects
Grading Structure: Select one: Regular or S/U
Can a student take this course multiple times, each attempt counting separately toward graduation? Yes/No
If yes, indicate the maximum number of credit hours counted toward graduation

Variable at the discretion of each degree-granting unit.

Course CIP (Academic Affairs Completes this question):

Justification and Assessments

What is the justification for this course and what data do you have to support it?

Research shows that there are positive outcomes for students who engage in undergraduate research. Undergraduate research is one of the ten “high-impact educational practices” that promote deep learning and engage students (Kuh, 2008). There are numerous benefits associated with undergraduate research – for example, increased retention, progression, & graduation rates, increased rates of attending graduate school, better success once in graduate school, improvements in critical thinking, improvements in writing and public speaking, etc. (Bauer & Bennett, 2003; Hathaway et al., 2002; Nagda et al., 1998; Nnadozie et al., 2001). Undergraduate research is one of the three pillars of our current Quality Enhancement Plan (QEP), “It’s About Engagement.” In sum, this course will increase undergraduate involvement in research, consistent with the mission of KSU and our status as a student-centered, research-driven R2 institution.
The Vertically Integrated Projects (VIP) program is an initiative designed to facilitate large-scale multidisciplinary research projects on campuses. VIP teams are typically led by one or more faculty members and involve large numbers of student researchers (both graduate and undergraduate where appropriate) who work on the teams ideally for 2-3 years. The VIP Consortium consists of nearly 40 institutions worldwide, with four already in Georgia (Georgia Tech, Georgia State, Morehouse, and University of Georgia). You can read more about the VIP Consortium here: http://www.vip-consortium.org/

There are several key features of the VIP program, found here: http://vip-consortium.org/content/vip-model. One key feature is that all students who work on VIP teams earn academic credit for their participation, which is why we are proposing this new course. Because the projects are multidisciplinary, students may work on a project with a faculty mentor in a different department. Therefore, we are proposing a course with a new prefix (“RES” out of the Office of Research). KSU is aiming to join the VIP Consortium, coordinated through the Office of Research.

The VIP model has been extensively studied for over 20 years (a sample of publications and presentations from Georgia Tech can be found here: http://www.vip.gatech.edu/publications). For example, VIP programs increase the diversity of students who participate in undergraduate research on campuses, and it facilitates contact with students from different majors. Students learn how to work effectively in diverse teams, and they gain the opportunity to learn different roles and skills as they progress through the program. Students are better prepared for graduate school and careers as a result of their participation in VIP.

What content/skills of each prerequisite commands its inclusion as a prerequisite for this course?

To make the course as inclusive as possible to as many different students as possible, there are no prerequisites for this course.

How often (every semester, every other spring, etc.) are the required prerequisites offered?

N/A

Outline the plan for continuous assessment of the course:

Because participation in VIP is for-credit, this course can count toward the “It’s About Engagement” (IAE) initiative at KSU. Students will complete reflections that will be assessed by the IAE team.
In addition, the Office of Research plans to track retention, progression, and graduation for students who take VIP courses, ideally matched against similar students who do not take VIP. Demographic variables of participating students (e.g., gender, race, ethnicity) will be compared against the KSU student body as a whole to examine the extent to which VIP is attracting diverse students.

Students in VIP courses will present/publish their work, and these products can be analyzed by the VIP coordinators to examine student learning. Peer assessments are an important component of VIP and will be included in our assessment plan. Teamwork can be assessed through the team wiki, analyzing contributions by each individual member.

We will work with the VIP Consortium to develop an assessment plan in line with other institutions in the consortium.

Please list all of the faculty-approved degree(s) required to teach this course:

Primary Investigators (PIs) of VIP projects will be tenured or tenure-track faculty at KSU. Therefore, faculty supervising the students will likely have terminal degrees in their field.

Resources and Funding

**Course Fees:**

If you are requesting a new fee, please ensure that the Student Elective Fees and Special Charges Proposal Form is signed by the Dean and attached to this proposal for review by Academic Affairs.

Implementation of course changes may be delayed pending final approval of course fees.

Please discuss course fee viability with your College Business Manager and Academic Fiscal Affairs Officer prior to curriculog submission.

Are special fees or tuition required for this course? **No**

What resources will be redirected to accommodate this course? "N/A" or "Use of Existing" are not sufficient answers for these questions. Funding and resources may not be available if these questions are not filled out completely. Neither will full approval be given if questions are not answered.

Funding from the Office of Undergraduate Research will be allocated to support VIP team activities initially (1 year). PIs are expected to secure funding for team activities in subsequent years through existing internal and external funding mechanisms.
Personnel
Explain who will be teaching this course and how that impacts faculty workload. Include requests for hiring additional faculty and use of any external/part-time faculty, if appropriate.

Course instructors will vary based on team composition. This is similar to Directed Methods or Directed Study courses. As this is a research-focused endeavor, the faculty will receive credit in their research/scholarship category and not as part of their instructional load.

Use of Technology
List any specific software, labs, additional use of technology required to teach this course effectively. Please provide an estimated cost for any new purchase requests.

Technology needs will be determined on a team-by-team basis. PIs are expected to identify and secure access to the required technology for their project.

Library Resources
Do the library services and resources currently available meet the student needs for this course? If not what library acquisitions are being proposed to meet essential needs?

Library resource needs will be determined on a team-by-team basis.

Equipment
What specific equipment is required to teach this course successfully?

Equipment needs will vary widely based on team composition. PIs are expected to identify and secure access to the required equipment/instrumentation.

Space
What physical space is required to teach this course successfully?

Space needs will vary widely based on research topics. PIs are expected to have space needs identified and addressed prior to starting a VIP team.

The new Academic Learning Center (ALC), currently being built on the Kennesaw campus, will have dedicated space for VIP teams to work, including movable desks and chairs, a video wall, and whiteboards. Equipment in this space will include laptops available for checkout, copiers, 3D printers, and more. We will work with the Associate Deans for Research on the Marietta campus to find dedicated space for VIP teams as needed.

Other Necessary Resources
Please state any additional required resources not addressed in the previous questions.

Additional needs will be assessed as teams join the program.

Please be sure a course syllabus is attached and submit this form to Amy Jones
ajone545@kennesaw.edu when ready to submit to UPCC for consideration. Any
questions can be directed to Amy Jones or curriculog@kennesaw.edu
Course Information

Class meeting time: TBD
Modality and Location: TBD
Credit Hours: 0 – 3-12 – 4

Instructor Information

Name: xxx
Email: xxx
Office Location: xxx
Office Phone: xxx
Office Hours: xxx
Preferred method of communication: xxx

About VIP

The Vertically Integrated Projects (VIP) program is an initiative designed to facilitate large-scale interdisciplinary research projects on campuses. Undergraduate students who join VIP teams earn academic credit for their participation in design/discovery efforts that assist faculty and graduate students with research and development issues in their areas of expertise.

The teams are:

- Multidisciplinary - drawing students from all disciplines on campus
- Vertically-integrated - maintaining a mix of undergraduate and graduate students each semester
- Long-term - each undergraduate student may participate in a project for up to three years, and each graduate student may participate for the duration of their graduate career.

The continuity, technical depth, and disciplinary breadth of these teams are intended to:

- Provide the time and context necessary for students to learn and practice many different professional skills, make substantial contributions to the project, and experience many different roles on a large, multidisciplinary VIP team.
- Support long-term interaction between the graduate and undergraduate students on the team. The graduate students mentor the undergraduates as they work on VIP projects embedded in the graduate students' research.
- Enable the completion of large-scale projects that are of significant benefit to faculty members' research programs.

Course Description

Multidisciplinary course supporting faculty research. Can participate multiple semesters. Students will have strong foundations within discipline, pursue further knowledge/skills, make meaningful contributions, and assume significant technical/leadership responsibilities.
Learning Outcomes

Learning outcomes specific to each project will be developed by the Principal Investigator (PI) for each VIP project. Below are general learning outcomes for students in VIP – PIs will select the learning outcomes applicable to each student/project.

At the end of your VIP experience, you will be able to:

1. Define the terminology associated with research and theory in this field
2. Describe past research studies in this field of study
3. Articulate how this research study makes a contribution to the field
4. Explain the rationale for choosing particular research methodologies and data analytic techniques
5. Evaluate research studies as part of the literature review
6. Locate primary and secondary sources related to their field of study
7. Synthesize and critically analyze past research in their field of study
8. Design a study to answer a research question
9. Develop a hypothesis
10. Describe ethical research practices and apply those practices to a research study
11. Write an IRB (or IACUC) proposal and become IRB certified
12. Collect data for a research study
13. Analyze, synthesize, organize, and interpret data from their research study
14. Work effectively as part of a team
15. Write a research paper
16. Present your research/creative activity to an audience (e.g., poster, oral presentation, performance, display)
17. Articulate the ways in which research participation helps prepare you for graduate school and/or a career
18. Describe appropriate professional conduct (e.g., at conferences, when interacting with professionals in the field)
19. Reflect on your research project, including strengths, weaknesses, and things you would do differently in another research context

Course Materials

Required Texts: xxx
Recommended Texts: xxx
Technology Requirements: xxx

Course Requirements and Assignments

Below are sample requirements/assignments for a VIP course. Faculty leading VIP teams will come up with assignments specific to their projects.

#1: Notebook (Paper-based or electronic Jupyter).
- Each team member will keep a notebook on their work during the semester.
- Sample notebooks from Georgia Tech’s VIP program can be found here and could serve as a good model for your notebook: http://www.vip.gatech.edu/vip-notebooks
- Notebooks must adhere to the following guidelines:

| Notebook Maintenance | - The notebook must be a bound notebook, with a sewn or glued binding, such as a composition book or lab notebook.  
| | - Your name, your project’s name, your contact info, and your team members’ contact info must be recorded on the outer or inside cover.  
| | - Each page must be numbered, dated, and signed.  
| | - Or electronic notebook in Jupyter  
| To-Do List Maintenance | - Maintain check-boxes for items to be done.  
| | - Check-off and date items when done.  

Meeting Notes - For meeting notes, include check-boxes for items for which you are responsible and deadlines for your sub team and the overall team.

Usability - Will your VIP notebook be of use to people who join the team later and need to refer to it? This includes legibility, intelligible technical and meeting notes, and overall organization.

Overall - An overall rating of your notebook. (Detailed design notes, design decisions, copies of or pointers to code that you wrote, records of important websites, etc.)

Wiki content - Wiki content refers to documentation produced online, either through the VIP wiki site, T-square, or other VIP-approved site.

#2: Reflection

This course is part of the "It’s About Engagement" initiative at Kennesaw State University, which is designed to increase engaged learning opportunities for students, including undergraduate research, internships/coops, and service learning. You can read more about the initiative here: https://engagement.kennesaw.edu/

Courses that are part of the “It’s About Engagement” initiative are required to include a reflection assignment. In this reflection, due at the end of the semester, you should address the following points:

1. Educational Value: How has participation in this VIP course helped you academically?
2. Connectedness Insights: How have other courses at KSU prepared you for participation in this VIP course? What connections can you make between your previous courses and this experience?
3. Integrated Problem-Solving: How have your prior knowledge and experiences helped you respond to the challenges you’ve experienced in this VIP course?
4. Values Growth: How have you grown both professionally and personally as a result of this VIP experience?

All reflections from courses in the “It’s About Engagement” initiative are anonymized (in other words, we take your name and other identifying information off). Then a committee evaluates the reflections according to this rubric:

https://engagement.kennesaw.edu/docs/12_Its_About_Engagement_Critical_Reflection_Rubric.pdf

This same rubric will be used to evaluate your reflection in this course.

#3: Conference Abstract

You will write a short abstract for your research for inclusion in the Symposium of Student Scholars. Your abstract will be graded on the extent to which you clearly articulate the following information (guidelines adapted from the National Conference on Undergraduate Research):

1. Clearly state the central research question and/or purpose of the project
2. Provide brief, relevant scholarly or research context (no actual citations required) that demonstrate its attempt to make a unique contribution to the area of inquiry
3. Provide a brief description of the research methodology
4. State conclusions or expected results and the context in which they will be discussed.

In addition, your abstract should be well written and well organized.

#4: Conference Poster
You will present your research as a poster at the Symposium of Student Scholars. Your poster will be graded according to the following rubric:

**Poster Grading Rubric**

<table>
<thead>
<tr>
<th>Item</th>
<th>Points</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Notebook</td>
<td>20</td>
<td>Every Friday</td>
</tr>
<tr>
<td>2) Reflection</td>
<td>10</td>
<td>Last day of class</td>
</tr>
<tr>
<td>3) Conference Abstract</td>
<td>10</td>
<td>One week before abstracts are due for the Symposium of Student Scholars</td>
</tr>
<tr>
<td>4) Conference Poster</td>
<td>30</td>
<td>Date of the Symposium of Student Scholars</td>
</tr>
<tr>
<td>5) Attendance and Participation</td>
<td>15</td>
<td>Ongoing</td>
</tr>
<tr>
<td>6) Peer Evaluation</td>
<td>15</td>
<td>Every Friday</td>
</tr>
</tbody>
</table>
Course Policies

Attendance at team meetings is mandatory. Please let me know right away whether you will be unable to attend a team meeting due to an emergency.

In this class, we might engage with some material that may feel new or controversial. When someone expresses an idea, whether in writing or class discussion, it’s vital that we respect each other’s ideas and treat each other kindly. Kindness does not mean that we’ll never disagree. Instead, kindness means that when we disagree, we’ll treat each other with respect, openness, and a willingness to learn. In fact, disagreement, challenge, and vulnerability lead to the richest learning, so it’s important that we work together to create conditions where we are able to dig deep into difficult ideas instead of just scratching the surface. To be clear, opinions that threaten violence will not be tolerated in the same way. If you have any concerns about an idea that a peer has shared or feel unsafe in the classroom, please set up a time with me so we can discuss your concerns. In class we will work as a group to create a Ground Rules for Discussion list.

Institutional Policies & Resources

**Federal, BOR, & KSU Course Syllabus Policies**

**Student Resources**

**Academic Integrity Statement**

Office of Undergraduate Research Resources

As part of this course, you will present your research at the Symposium of Student Scholars. However, I hope that you will think bigger – there are other conferences and publication opportunities out there supported by the Office of Undergraduate Research. Below are a few of the resources available on their website:

**National Conference on Undergraduate Research (NCUR) Funding:** NCUR is the largest conference on undergraduate research in the nation, with 4,000-5,000 attendees each year. KSU hosted this conference in 2019. Students will receive funding to present if they are selected through a pre-review process. You are encouraged to submit your project to NCUR.

**Funding for Students:** Students can apply for Undergraduate Research and Creative Activity (URCA) funds ($1,000 maximum) for: (1) supplies or materials to conduct research, (2) undergraduate research stipends, (3) virtual conference registration costs, or (4) publication costs.
The Symposium of Student Scholars is an event to showcase student scholarship conducted at KSU during the past year. Hundreds of students, faculty, staff, and administrators join us each year to celebrate undergraduate and graduate research. Prizes are awarded for top posters and presentations. The event is held near the end of the Fall and Spring semesters each year.

The Kennesaw Journal of Undergraduate Research (KJUR) is a multi-disciplinary, peer-reviewed, scholarly journal dedicated to promoting research by undergraduates at KSU.

The Undergraduate Research Library Award ($500) is given to a student or team of students who submit a manuscript to KJUR and write a short essay about how the library was useful in conducting the research.

Workshops for Students: There is a Workshop Series for students on a variety of topics related to undergraduate research (e.g., how to make a poster, how to effectively deliver an oral presentation at a conference, how to apply for undergraduate research funding).

Online Resources for Students include webpages on how to make a poster, how to make an effective oral presentation for a conference, and more.

Posters on the Hill: Undergraduates who are conducting cutting-edge research at KSU should consider submitting an abstract to Posters on the Hill. It is an extremely prestigious event in which undergraduates present their research as posters to members of Congress each spring in Washington, DC. The Office of Undergraduate Research will pay expenses for those accepted to present.

Posters at the Georgia Capitol: Any undergraduate student who will be enrolled as an undergraduate student in the Spring of 2021 in a public or private college or university located in the State of Georgia is eligible to submit an application. Accepted students will present to legislators at the state capitol in Atlanta in the spring.

Free Poster Printing: Undergraduates who are presenting at a conference can get their posters printed for free.

Join the Council on Undergraduate Research (CUR): KSU is an enhanced institutional member of CUR, which means that all KSU faculty, staff, and students can activate their benefits for free.

Course Schedule

Week 1
- Introductions
- Class Overview
- Ground Rules
- Syllabus Review
- Notebook Overview
- Research Overview

Weeks 2-3
- Discuss projects and options for the projects
- Readings as assigned
- Notebooks due Fridays
- Complete CITI training by the end of the third week
- Peer Evaluation 1 due by the end of the third week
Weeks 4-6
- Working time
- Readings as assigned
- Notebooks due Fridays
- Draft abstract for Symposium of Student Scholars
- Peer Evaluation 2 due by the end of the sixth week

Weeks 7-10
- Working time
- Readings as assigned
- Notebooks due Fridays
- Mid-semester progress report due to VIP coordinators by the end of the eighth week
- Peer Evaluation 3 due by the end of the tenth week
- Final abstract due for the Symposium of Student Scholars
- Draft poster due for the Symposium of Student Scholars

Weeks 11-14
- Working time
- Readings as assigned
- Notebooks due Fridays
- Present poster at the Symposium of Student Scholars
- Peer Evaluation 4 due by the end of the fourteenth week

Week 15
- Course wrap-up
- Reflection due
- Final report due to VIP coordinators
- Next steps