VIP Syllabus • Spring 2027

Vertically Integrated Projects Program • vip.gatech.edu

Team Name:
Gaming for Electric Power Grids

Instructor
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Each team will determine working times, designated as "sub-team meetings." Students are responsible for participating in their team and sub-team meetings. If you miss any meeting, you are responsible for knowing what occurred in that meeting, typically by discussing it with other team members. An excused absence does not relieve you of that responsibility.

About VIP

The Vertically Integrated Projects (VIP) Program operates in a research and development context. Students that 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 sophomores through PhD 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.

Learning Objectives

Through VIP students will:

- Learn and practice professional skills;
- Make substantial contributions to the team project;
- Experience different roles on a large, multidisciplinary team.

Team Focus

The reliability of electric power grids is challenged by the rapidly increasing frequency and severity of natural disasters. To better design and operate power grids during natural disasters and build public acceptance for the disruptive actions needed to mitigate their impacts, this project will **develop and deploy video game style simulations that put the player in the role of a power system operator** tasked with managing the grid during extreme events. In addition to educating the public about critical infrastructure, data collected from players of the video games will be used to train machine learning algorithms to help engineers better prepare for and respond to actual disaster scenarios.

Semester Overview

Week	Date	Activity/Event
Week 1	Week of Jan. 11	Introductions Overview of team's work Discussion of semester goals
Week 2	Week of Jan. 18	Sub-team selections finalized Sub-team meeting times finalized
Week 2-3	Jan. 20 – Jan. 26	Verification of Student Participation in Class. Due by Tuesday at 4:00 pm.
Week 8	Week of Mar. 1	Web-based peer-evaluations released for students to complete. Online form closes at the end of the day on Friday this week. Late submissions will not be accepted.
Week 8	Mar. 2	Turn in VIP notebooks at team meeting for mid-term grading
	Mar. 17	Withdrawal deadline
Week preceding finals	Apr. 19 – Apr. 27 Open Close	Web-based peer-evaluations released for students to complete. Online form closes at 11:59 pm on Tuesday. Late submissions will not be accepted. Turn in VIP notebooks at team meeting for final grading.
Finals Week	Apr. 29 – May 6	No final. No assignments.

Grading

The premise of VIP is teams working on projects. Much like a real-world team, individual members work on different aspects of the project. Team members range from sophomores through graduate students, from first-time participants to students who have been involved for four or more semesters. The number of credits for which a student is enrolled is considered in grading. Zero-credit students (reserved for paid participation only) participate in the same grading process.

Your grade is based on three areas, each with multiple requirements. Although each student contributes in different ways, you must demonstrate achievements in all three areas below.

Student meets or does not meet specified expectations.

A = meets expectations on at least seven standards (listed below) and meets all *standards.
B = meets expectations on at least six standards.
C = meets expectations on at least four standards.
D = fails to meet the expectations in at least four standards.
F = fails to meet any expectations or is inactive on the team.

Standard Met	Area	Details
	Documentation (1/3 of grade)	
___*	Explanation of what was done	Sufficient explanation of work, progress, and next steps. Someone knowledgeable/skilled in the field would be able to understand decisions made, repeat what was done, and obtain the same result.
	Contributions (1/3 of grade)	
___	Proactive	Identifies or asks for tasks to do; does not leave weekly meetings without work to do, suggests next steps; does not stop working and searches for solutions when obstacles arise – checks team documentation, searches online, reaches out to teammates, etc.
___	Quality of contributions	Work is timely, thorough, and accurate; comes to meetings prepared.
___*	Appropriate level of contribution	**Considering the course level and number of credit hours**, contributions to the project were appropriate. Contributions may include obtaining skills needed to do the work, reading documentation, etc.
	Teamwork (1/3 of grade)	
___*	Attitude and participation	Demonstrates interest in the project; treats teammates with respect; pays attention to the people speaking during meetings; avoids distractions during meetings; participates in discussions around others' work; asks thoughtful, relevant questions; acknowledges the value of others' contributions.
___*	Engages with teammates' work	Knows what others on the team/subteam are doing; checks in/stays abreast of their progress; gives teammates constructive feedback and suggestions; helps or provides guidance to teammates; helps keep the team/subteam moving forward.
___	Communicates well	Communicates clearly and in a timely manner; exchanges relevant information with teammates; facilitates communication within the team.
___	Receptive to feedback, suggestions and help	Solicits and listens to suggestions and feedback; willing to accept help; uses suggestions and feedback to improve.

* Must meet expectation in order to earn an A.

Learning Environment

All students have the right to a safe, healthy, and inclusive learning environment. Any student who feels that this class is not meeting that standard should feel free to contact the instructor or the Office of the Dean of Students. All issues will be treated with confidentiality and respect.

Academic Honesty

The main principle in VIP academic honesty is that you will not present someone else's work as your own. You are encouraged to consult whatever sources are helpful in learning and understanding the issues associated with the material, but you should always provide appropriate references and citations where such material is included in your VIP notebook, programming code, presentations, etc.

Additionally, to provide a good working environment for all students, you're expected to adhere to rules given here, posted, or disseminated in class. Academic Honesty is taken seriously and failure to follow these principles will result in disciplinary actions as stated in the Student/Faculty Handbook.

Accommodations for Students with Disabilities

Georgia Tech offers accommodations to students with disabilities. If you need a classroom accommodation, please make an appointment with the Office of Disability Services (www.disabilityservices.gatech.edu). If you have an accommodation letter from ODS, please provide your team advisor with a copy of your accommodation letter and discuss with them how your accommodations will be applied. This should be done as early as possible in the semester.

Labs and Facilities

VIP has rooms and equipment that are shared by many VIP teams. In order to provide a good working environment, the following rules apply to anyone with access to these rooms and equipment:

1) The room priorities are:
    a. Scheduled team meetings, lectures, and learning modules;
    b. Weekly sub-team meetings (multiple groups can use rooms at same time);
    c. Video conferences or special meetings with VIP stakeholders;
    d. Other project-related work (multiple groups can use rooms at same time).

    Room schedules can be viewed on the VIP website.

    While the above priorities indicate which events take precedence, a good neighbor policy on using the rooms applies. If you need to access computers, equipment, or work on a project in the room while other activities are going on (sub-team meetings, etc.), you are welcome to do so as long as it does not disrupt a scheduled activity. Similarly, multiple groups may use a VIP room at the same time. Also, where it does not disrupt one of the above uses, VIP participants may use the rooms for other activities such as studying.

2) Everyone is expected to pitch in to keep the rooms clean. Food is allowed in the rooms provided any spills or messes are cleaned immediately. The rooms are monitored by camera, and **staff will pull videos to identify offenders**. Gum is a particular problem especially in carpeted rooms. Do not place used gum anyplace other than in a trash can.

3) The rooms have equipment both for general use and for specific teams. General use equipment includes the projector in Klaus 1440, and monitors in VL 465 and VL 463B. Other equipment may be for general use or dedicated to a team specific purpose; some equipment may be general use one semester and assigned to a team another semester. If you are unsure of whether equipment is available for general use, contact the VIP trouble-ticket system at vip-request@ece.gatech.edu. You should only use equipment for the designated purpose. Some equipment may pose personal hazards if used inappropriately!
    a. Equipment owned by the VIP Program may not be removed from a VIP room without completed an equipment loan agreement, which would need to be approved by one of the VIP Directors. To request permission, email vip-request@ece.gatech.edu.
    b. You will be responsible for the replacement cost of any equipment not returned in good condition.
    c. You must be sure you know how to operate the equipment safely. Written approval to use the equipment does not indicate that the team advisor has reviewed equipment use and safety. You are responsible for knowing the hazards and safe operation of any equipment you use.

4) Computer accounts are issued for your use only. You may not share computer accounts with anyone else, even another team member. All computer usage is subject to rules and policies of Georgia Tech, the University System of Georgia Board of Regents, and the State of Georgia. Additionally, you are expected to be considerate of other users. Computer permissions are not authoritative. For example, just because you have file access to something does not indicate that it is appropriate for you to read or modify that file.

5) Buzz-card access to VIP facilities is a privilege contingent on abiding by the above rules. **Buzz-card access is logged, and rooms are video recorded.** Be aware that if there is a problem (theft, vandalism, or simply a mess left in a room), the logs and video records will be consulted. Do not allow unknown people to access VIP facilities. Be sure to secure the facilities (i.e., close the door) when you leave.