SPRING 2021
WELCOME TO VIP:

VIP 17912, 17920, 27920, 37920, 47920, 47921, 47922
ENGR 39600, 49600

Prof. Carla B. Zoltowski,
Director, VIP
Vertically Integrated Projects (VIP) Program

In VIP, you can....

- **...earn academic credit** while engaging in **authentic and extended research and design projects** related to active research areas of Purdue faculty members and national, international, and industry-sponsored design challenges.

- **...can participate on interdisciplinary and vertically-integrated teams** (first-year through seniors) with **faculty and graduate student mentors** for multiple semesters to address these real-world research and design challenges.

- **...can make a difference!**
VIP = Project work + Professional Development

• Project work - both as an individual and a team - is most significant aspect of VIP
  • Lab meetings – typical scheduled 1 hour/week where you review progress with and get feedback from the team mentor(s)
  • Project team meetings (recommend regular scheduled time)
  • “Lectures” and/or “Assignments” to learn background for project during early part of semester (e.g., implement small task, read relevant research articles)
  • Final presentation, report, etc.

• Professional Development Opportunities
  • Support your success on the project and the team, and overall, in your career and life
Learning Objectives = ABET Outcomes

Students in VIP will make progress on each of the learning outcomes listed below:

i. an ability to apply engineering design to create a product …

ii. an ability to develop and conduct experimentation…

iii. an ability to identify, formulate, and solve complex engineering problems …

iv. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, …. 

v. an ability to communicate effectively with a range of …

vi. an ability to acquire and apply new knowledge as needed…

vii. an ability to recognize ethical and professional responsibilities …
**Brightspace: Two Sections**

- **PD (Professional Development):** Spring 2021 VIP PD - Merge
  - Includes all students and mentors in VIP
  - Course-wide communication
  - Professional Development Resources
  - Discussion boards

- **Lab/Team:** Spring 2021 VIP team - Merge
  - Your VIP team specific info/assignments/expectations
  - Communication with your team
  - Assessments/assignments
    - Professional Development plan
    - Mid-semester Assessments
    - Final Assessments

- **VIP Syllabus** - *integrated syllabus with specific VIP info*
Professional Development (PD) Plan

Professional Development Plan
• Support your success on your project and your team, and overall, in your career and your life
• More autonomy and access to opportunities when you need them, not when we offer them
• Expect you to participate in 10 activities (1 activity ≈ 1 hour)
• Support tracks (e.g., Global Competency Certificate Modules for VIP Global team)
• Professional Develop Opportunities
  • The “lecture” portion of VIP is a way for you to participate in Professional Development sessions which are combination of asynchronous and synchronous activities
  • In “Spring 2021 VIP PD - Merge” Brightspace
Professional Development Resources

Current Submodules – Continue to add

• Introduction/General VIP Presentations
• Career Planning
• Communication
  • Oral, Written, Interpersonal, Dissemination Share with the world, and how to prep for these....
• Entrepreneurship
  • Intellectual Property
• Ethics
  • Everyday Ethics in Research and Design
• Hot Topics
• Intercultural Learning
• Teamwork/Leadership
• Well-being
• Research/Design: How-to and Tools
  • How to use Git/GitHub, LaTex, Responsible Conduct for Research (RCR)
### Professional Development Plan: Three (3) Required

<table>
<thead>
<tr>
<th>Track/Topic*</th>
<th>Activity</th>
<th>Organizing unit</th>
<th>Date (of activity or expected participation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PD (Required)</td>
<td>Welcome to VIP</td>
<td>VIP</td>
<td>This presentation/lecture</td>
</tr>
<tr>
<td>2. Communication</td>
<td>Conference – Abstract submission</td>
<td>OUR</td>
<td><strong>Due March 11th at 11:59 pm. See Purdue Undergraduate Research Conference Webpage</strong></td>
</tr>
<tr>
<td>(Required)</td>
<td></td>
<td></td>
<td>April 12 - 19</td>
</tr>
<tr>
<td>3. Communication</td>
<td>Conference – Poster or Oral Presentation</td>
<td>OUR</td>
<td></td>
</tr>
<tr>
<td>(Required)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The remaining seven activities are to be chosen by the you, in collaboration with you team and team mentor, depending on their interest and what would be most beneficial for their work on a specific team.

Team/Mentor can choose an alternate activity (e.g., IEEE Conference, Business pitch competition, presentation to external sponsor)
# PD Plan Example – Due February 7th in Team Brightspace

<table>
<thead>
<tr>
<th>Track/Topic**</th>
<th>Activity</th>
<th>Organizing unit</th>
<th>Date (of activity or expected participation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PD (Required)</td>
<td>Introduction to VIP</td>
<td>VIP</td>
<td>Week 1</td>
</tr>
<tr>
<td>2. Communication: Written (Required)</td>
<td>Conference - Abstract submission</td>
<td>OUR</td>
<td>Due March 11th at 11:59pm</td>
</tr>
<tr>
<td>3. Communication: Share with the World (Required)</td>
<td>Conference - Poster Presentation</td>
<td>OUR</td>
<td>April 12 - 19</td>
</tr>
<tr>
<td>4. Research/Design</td>
<td>Watch Video Advice about Doing Research (from Prof. Lu)</td>
<td>VIP</td>
<td>February 1</td>
</tr>
<tr>
<td>5. Research/Design</td>
<td>Watch “Git &amp; GitHub Crash Course for Beginners” and comment on Discussion Board</td>
<td>VIP</td>
<td>February 7</td>
</tr>
<tr>
<td>6. Teamwork/Leadership</td>
<td>Watch “Implicit Bias/Psychological Safety” video and comment on Discussion Board</td>
<td>VIP</td>
<td>February 14</td>
</tr>
<tr>
<td>7. Teamwork/Leadership</td>
<td>GM Leadership Series - Bill Muzzillo - Parts 1-3 and comment on Discussion Board</td>
<td>VIP/EPICS</td>
<td>February 21</td>
</tr>
<tr>
<td>8. Ethics</td>
<td>Watch “Everyday Ethics in Research and Design” and comment on Discussion Board</td>
<td>VIP</td>
<td>February 28</td>
</tr>
<tr>
<td>9. Communication</td>
<td>I am going to build my resume and practice my elevator speech using Upkey from the CCO On Demand Tools</td>
<td>VIP</td>
<td>March 18</td>
</tr>
</tbody>
</table>

Can deviate from plan; do not need to resubmit.
### Suggested Approaches for...

<table>
<thead>
<tr>
<th>Who?</th>
<th>Activities and how to find them</th>
</tr>
</thead>
</table>
| **All Students**| 3 required (only 2 & 3 are required for VIP 17911/17912)  
1) Watch “Welcome to VIP” video available on Brightspace PD  
2) Write an abstract and  
3) present project at a conference or expo (or to external stakeholders)                                                                                                                                                                   |
| **New Students**| Start with Brightspace PD Resource Materials – communication, research and design tools                                                                                                                                               |
| **Returning Students**| Branch out and find workshops, technical talks, etc. through professional societies, Graduate School, leadership initiatives, IDSI, etc.                                                                                                                  |
| **Mentors**     | Review materials on Brightspace PD course to see what skills and knowledge you would like your students to gain this semester. Also consider suggesting outside activities that fit well with your team’s project. |

---

**Purdue University College of Engineering**

1/21/2021 10
VIP Grading Process

**At start of semester**
- Set expectations; Professional Development Plan

**Mid-semester**
- Student: self and peer evaluation
- Advisor: assess and provide formative feedback

**Final**
- Student: self and peer evaluation
- Advisor: assess and determine final grade
VIP Mid-semester Evaluation

How to access (when available):
Team’s Brightspace > Course Tools > Assignments

Steps to submit:
• Download Word Doc
• Fill in template
• Upload completed evaluation to Brightspace by Sunday, March 7th @ 11:59 pm EST

1. List your individual accomplishments to date (can add/delete rows as needed):

<table>
<thead>
<tr>
<th>Individual Accomplishments</th>
<th>Location of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. List your individual accomplishments and achievements that you will complete by the end of the semester (can add/delete rows as needed)

<table>
<thead>
<tr>
<th>Accomplishment to be completed</th>
<th>When will it be completed?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Describe anything that you are struggling with related to the project.

4. Describe at least one of your strengths that has contributed to the team.

5. Describe at least one of your weaknesses that you could try to overcome.

6. Describe your impact on the project overall.

7. Any additional comments you would like to add:
Evaluation Criteria

Accomplishments and effort:
__ Quantity of project accomplishments
__ Quality of project accomplishments
__ Initiative
__ Work ethic
__ Ability to overcome project setbacks
__ Learning needed for the project
__ Focuses effort on achieving goals
__ Manages time and tasks well
__ Overall

Documentation:
__ Individual documentation (quality/quantity)
__ Contributions to team documentation (quality/quantity)
__ Contributions to team poster, presentations
__ Use of appropriate tools (e.g., Git)
__ Overall

Teamwork and Interactions:
__ Participates fully in team (lab) meetings
__ Participates fully in sub-team meetings
__ Contributes fair share of team’s work with acceptable quality
__ Keeps commitments and completes assignments on time
__ Listens to teammates and respects their contributions
__ Communicates clearly. Shares information with teammates
__ Respects and responds to feedback from teammates
__ As appropriate, involves and assists others in efforts
__ Demonstrates leadership and/or project management skills
__ Development and implementation of PD plan
__ Overall
# Teamwork Rating Scale

<table>
<thead>
<tr>
<th>Score</th>
<th>Contributing to Team’s Work</th>
<th>Interacting with Teammates</th>
<th>Keeping the Team on Track</th>
<th>Expecting Quality</th>
<th>Having Related Knowledge, Skills, and Abilities</th>
</tr>
</thead>
</table>
| 5     | - Does more or higher-quality work than expected.  
      | - Makes important contributions that improve the team’s work.  
      | - Helps teammates who are having difficulty completing their work. | - Asks for and shows an interest in teammates’ ideas and contributions.  
      | - Makes sure teammates stay informed and understand each other.  
      | - Provides encouragement or enthusiasm to the team.  
      | - Asks teammates for feedback and uses their suggestions to improve. | - Watches conditions affecting the team and monitors the team’s progress.  
      | - Makes sure that teammates are making appropriate progress.  
      | - Gives teammates specific, timely, and constructive feedback. | - Motivates the team to do excellent work.  
      | - Cares that the team does outstanding work, even if there is no additional reward.  
      | - Believes that the team can do excellent work. | - Demonstrates the knowledge, skills, and abilities to do excellent work.  
      | - Acquires new knowledge or skills to improve the team’s performance.  
      | - Able to perform the role of any team member if necessary. |
| 4     | Completes a fair share of the team’s work with acceptable quality.  
      | Keeps commitments and completes assignments on time.  
      | Helps teammates who are having difficulty when it is easy or important. | Listens to teammates and respects their contributions.  
      | Communicates clearly. Shares information with teammates.  
      | Participates fully in team activities  
      | Respects and responds to feedback from teammates. | Notices changes that influence the team’s success.  
      | Knows what everyone on the team should be doing and notices problems.  
      | Alerts teammates or suggests solutions when the team’s success is threatened. |
| 3     | Demonstrates behaviors described immediately above and below.  |
| 2     | Does not do a fair share of the team’s work. Delivers sloppy or incomplete work.  
      | Misses deadlines. Is late, unprepared, or absent for team meetings.  
      | Does not assist teammates. Quits if the work becomes difficult. | Interrupts, ignores, bosses, or makes fun of teammates.  
      | Takes actions that affect teammates without their input. Does not share information.  
      | Complains, makes excuses, or does not interact with teammates.  
      | Is defensive. Will not accept help or advice from teammates. | Is unaware of whether the team is meeting its goals.  
      | Does not pay attention to teammates’ progress.  
      | Avoids discussing team problems, even when they are obvious. |
| 1     | Demonstrates behaviors described immediately above and below.  |
|       | Satisfied even if the team does not meet assigned standards.  
      | Wants the team to avoid work, even if it hurts the team.  
      | Doubts that the team can meet its requirements. | Missing basic qualifications needed to be a member of the team.  
      | Unable or unwilling to develop knowledge or skills to contribute to the team.  
      | Unable to perform any of the duties of other team members. |
CATME:

In addition, you will complete:
• Team satisfaction (short survey)
• Psychological Safety (short survey)
• Written comments for each team member:
  • “Please provide constructive comments about your fellow teammates as well as yourself. The purpose of these comments is to give you the opportunity to explain how you rated your peers and if there was behavior or experiences in particular that influenced you when doing your peer and self-evaluations.”
  • Your teammate will be able to read your comments, but they will be anonymous.
  • Optional: Confidential comments
### Contributing to the Team's Work

<table>
<thead>
<tr>
<th>How You Rated Yourself</th>
<th>How Your Teammates Rated You</th>
<th>Average Rating for You and Your Team</th>
<th>Description of Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Does more or higher-quality work than expected.
- Makes important contributions that improve the team's work.
- Helps teammates who are having difficulty completing their work.

- Demonstrates behaviors described immediately above and below.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Completes a fair share of the team's work with acceptable quality.
- Keeps commitments and completes assignments on time.
- Helps teammates who are having difficulty when it is easy or important.

- Demonstrates behaviors described immediately above and below.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Does not do a fair share of the team's work. Delivers sloppy or incomplete work.
- Misses deadlines. Is late, unprepared, or absent for team meetings.
- Does not assist teammates. Quits if the work becomes difficult.

Research suggests the following behaviors will improve your ratings in this area:

- Do a fair share of the team's work.
- Fulfill your responsibilities to the team.
- Come to team meetings prepared.
- Complete your work in a timely manner.
- Do work that is complete and accurate.
- Make important contributions to the team's final product.
- Keep trying when faced with difficult situations.
- Offer to help teammates when it is appropriate.
Mid-semester Peer Evaluation

CATME

How to access:

Team’s Brightspace > Course Tools > Assignments

-OR-

Team’s Brightspace Home > Upcoming Events

Steps to submit:
1) Click on link to CATME website
2) Complete the practice (if new to CATME)
3) Evaluate peers
4) Submit “Completed” and date of completion in Brightspace assignment by Sunday, March 7th @ 11:59 pm EST
Documentation

What is it, and why is it necessary?
• Describes what you did and why, how you did it, what you found, what you might do differently, what you’re going to do next, etc.
• Used as evidence of progress, protect Intellectual Property
• Critical for transition, onboard/offboarding of team members
• Code repository (e.g, Git)

What it’s not:
• Meeting notes
• List of “I did”
Seven Requirements and Due Dates

1. **Document individual contributions** to the project and team in format as required by your project mentor(s).

2. Contribute as appropriate to **project documentation**, presentations, publications, and/or poster.

3. Submit **Professional Development plan** by Sunday, February 7th.


5. Complete **Final Individual Performance Evaluation & PD Reflection** by Friday, April 30th at 11:59 pm in Brightspace.

6. Complete **mid-semster and final peer evaluation of team members in CATME** (mid-semster due Sunday, March 7th at 11:59 pm and final peer evaluations due Friday, April 30th at 11:59 pm)

7. Complete **final Purdue course evaluation and submit screen shot of completion to Brightspace** (due Friday, April 30th at 11:59 pm).
<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Overall, the student’s accomplishments and effort, documentation, and teamwork and interactions are excellent. All of the seven (7) requirements have been satisfied.</td>
</tr>
<tr>
<td>B</td>
<td>Overall, the student’s accomplishments and effort, documentation, and teamwork and interactions are good. Six (6) of the seven (7) requirements have been satisfied.</td>
</tr>
<tr>
<td>C</td>
<td>Overall, the student’s accomplishments and effort, documentation, and teamwork and interactions are adequate. Five (5) of the seven (7) requirements have been satisfied.</td>
</tr>
<tr>
<td>D</td>
<td>Overall, the student’s accomplishments and effort, documentation, and teamwork and interactions are marginal. More than two of the seven (7) requirements are missing.</td>
</tr>
<tr>
<td>F</td>
<td>Overall, the student’s accomplishments and effort, documentation, and teamwork and interactions are unacceptable. More than three of the seven (7) requirements are missing.</td>
</tr>
</tbody>
</table>
Senior Design Evaluation

In addition to the above requirements and expectations, senior design students must complete the following documents instead of the “Individual Performance Evaluation” documents (templates are posted on the VIP website):

- **VIP Senior Design Project Proposal:**
  - Individual – during 1st semester
  - Submit both at mid-semester and final evaluations during 1st SD semester

- **VIP Senior Design Project Description:**
  - Project team – during 2nd semester
  - Submit both at mid-semester and final evaluations during 2nd SD semester

- **VIP Senior Design Reflection, Outcomes Matrix, and Rubric document:**
  - Submitted at the mid-semester and final evaluations both senior design semesters instead of the Individual Performance Evaluation rubrics
## Senior Design Grading

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Overall Rating for Outcome</th>
<th>Weight</th>
<th>Rating x Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. An ability to apply engineering design to create a product that meets the specified needs of this engineering design experience with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.</td>
<td></td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>ii. An ability to develop and conduct experimentation, analyze and interpret data, and use engineering judgment to draw conclusions related to the development of the product of this engineering design experience.</td>
<td></td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>iii. An ability to identify, formulate, and solve complex engineering problems arising from this engineering design experience by applying principles of engineering, science, and mathematics.</td>
<td></td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>iv. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives associated with this design experience.</td>
<td></td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>v. An ability to communicate effectively with a range of audiences appropriate to this design experience in both a written report and oral presentation.</td>
<td></td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>vi. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies to complete the engineering design experience associated with this course.</td>
<td></td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>vii. An ability to recognize ethical and professional responsibilities associated with this engineering design experience and make informed judgments which must consider the impact of the product of this engineering design experience in global, economic, environmental, and societal contexts.</td>
<td></td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Key Dates

Requirements due dates: Assignments in VIP Team Brightspace

- Sunday, February 7th at 11:59 pm: Professional Development Plan
- Sunday, March 7th at 11:59 pm: Mid-semester Assessment
  - Mid-semester Individual Performance Evaluation
  - CATME Peer Evaluation
- Friday, April 30th at 11:59 pm: Final Assessment
  - Final Individual Performance Evaluation & PD Reflection
  - CATME Peer Evaluation
  - Purdue Course Evaluation

Undergraduate Research Conference: April 12 – 19th
- Abstracts: Thursday, March 11th at 11:59 pm

No classes: Purdue Reading Days (Feb 17, March 18, and April 13)

Structured deadlines to respect “Stress Free Week”
Communication is key!

- In-person meetings of a course cannot be a factor in final grades
- ODOS can provide a general absence letter confirming if you cannot attend class
- You are expected to communicate to team mentors and your teammates if you are unable to participate in meetings and/or meet class/project obligations (if at all possible).
- You are expected to comply with Protect Purdue and SOP guidelines when on campus and lab.
- VIP Suite (EE 013, 011) not currently available for meeting
  - Working to add video conferencing capabilities
  - Policies/procedures will be communicated when available
Questions?

- Team Mentors - usually should be your first point of contact about team matters
- Post questions/comments in the VIP-PD Brightspace “Learners Lounge” Discussion area
- Email vip@purdue.edu

Dr. Carla Zoltowski
Director
cbz@purdue.edu

Dr. Nichole Ramirez
Assistant Director
nramire@purdue.edu

Baekdu Choi
Lead Admin TA
choi504@purdue.edu

Office Hours: By appointment