**Internship Preliminary Project Plan Template**

**Intern Information**

* **Intern Name:** Manuel Martinez
* **Email Contact:** manuelmartinezint1@gmail.com
* **Phone Number:** (479) 981-4295
* **Date:** 07/17/2025

**Project & Mentorship**

* **Project Name:**Ethercat-P Board
* **Mentor Name:** Perera, Jeevan S. (JSC-ER511)
* **Mentor Email:** [jeevan.s.perera@nasa.gov](mailto:jeevan.s.perera@nasa.gov)
* **Mentor Phone Number:**
* **Co-Mentor Name:** Lissette Chavez
* **Co-Mentor Email:** [lissette.b.chavez@nasa.gov](mailto:lissette.b.chavez@nasa.gov)
* **Co-Mentor Phone Number:**

**Intern Schedule**

* **Intern Type:** ☑ Full-Time (40 hrs/week) ☐ ) Part-Time (15–20 hrs/week)
* **Agreed Active Core Hours (e.g., 9 am–5 pm, M–F):**  
  *(Fill in your scheduled hours with your mentor here)*

**Project Objectives**

**Objective 1**

* **Objective:**  
  Learn KiCad and Altium through tutorials and guided resources.
* **Tasks:**
  + Watch KiCad and Altium tutorials
  + Explore each software interface and basic functionality
* **Resources Required:**  
  KiCad, Altium Designer, tutorial videos, online documentation
* **Anticipated Outcome:**  
  Gain foundational knowledge and confidence using PCB design tools for future project tasks.
* **Anticipated Challenges:**  
  Learning curve and complexity in using advanced design software
* **Deadline/Timeline:**  
  Weeks 1–3

**Objective 2**

* **Objective:**  
  Use Altium to design the schematic by adding and creating footprints, and reviewing similar projects.
* **Tasks:**
  + Import and modify component footprints
  + Create custom footprints if necessary
  + Analyze related project schematics for reference
* **Resources Required:**  
  Altium Designer, datasheets, reference project files
* **Anticipated Outcome:**  
  Complete schematic design and gain deeper understanding of necessary components
* **Anticipated Challenges:**  
  Interpreting existing project designs and adapting components properly
* **Deadline/Timeline:**  
  Weeks 4–7

**Objective 3**

* **Objective:**  
  Design the PCB as compact as possible and complete the board order
* **Tasks:**
  + Optimize layout for size
  + Ensure all connections and layers are complete
  + Generate and verify Gerber files
  + Place PCB order
* **Resources Required:**  
  Altium Designer, PCB fabrication guidelines, fabrication service access
* **Anticipated Outcome:**  
  Produce a finalized, manufacturable PCB design that is minimal in size
* **Anticipated Challenges:**  
  Routing in limited space, ensuring electrical functionality in a compact design
* **Deadline/Timeline:**  
  Weeks 8–10

**Roles and Responsibilities**

**Intern Role & Responsibilities**

* Learn and apply EDA tools (KiCad, Altium)
* Complete schematic and PCB design for the assigned project
* Collaborate with mentor and co-mentor on design decisions
* Seek feedback and iterate on designs

**Mentor Role**

* Provide technical guidance and feedback
* Approve progress milestones
* Ensure alignment with project goals

**Co-Mentor Role**

* Support in tool usage and troubleshooting
* Offer additional insights or project references
* Monitor task progress and timeline