

# **Preliminary Research Prospectus for Independent Research (Undergraduate, Graduate, & Ph.D.)**

*(To be submitted electronically to [jvanegas@ce.gatech.edu](mailto:jvanegas@ce.gatech.edu))*

*(Sections 1-6, Maximum 3 pages; Appendix, no page limit)*

## **Title of the Proposed Research Project:**

<< Insert here the working title of your proposed research project. >>

## **Submitted by:**

<< Insert your name here. >>

## **Date:**

<< Insert the date here. >>

### **1. Identification of a General Research Problem or Thesis: (remember – no research problem or thesis, no project...)**

<< Insert here a short description of the proposed research problem or thesis. This description should clearly define the knowledge domains within which the research will be conducted. >>

### **2. General Context of the Research Problem or Thesis**

<< Insert here a concise narrative that clearly establishes the context for the proposed research problem or thesis. This narrative must explicitly:

- A. Describe the general **background and importance** of the problem/thesis.
- B. Identify the **basic references and sources of information**.
- C. Present the results of a broad **preliminary literature review**.
- D. Determine the **current state-of-the-art** in the general problem or thesis area.
- E. Establish a **point of departure** for the project (i.e., current state of knowledge). >>

### **3. Specific Research Problem Statement or Thesis (the why...)**

<< Insert here a concise narrative that clearly establishes the specific research problem statement or thesis for the proposed investigation. This narrative must explicitly:

- A. Establish: what is the **specific fundamental research problem statement or thesis**, and the associated **research questions**, that will be addressed in the investigation? (i.e., what is the **purpose** of the project)
- B. Establish: what are the **research drivers** for the investigation? (i.e., what is the **need, importance, or significance** of the project) >>

### **4. Research Objectives (the what...)**

<< Insert here a concise narrative that clearly establishes the research objectives for the proposed investigation. This narrative must explicitly:

- A. Establish: what are the **general goals** of the investigation?
- B. Specify: what are the **specific objectives** of the investigation?
- C. Specify: what is the **anticipated outcome** of the investigation, i.e., what will the project accomplish?
- D. Specify: what are the accompanying **measurable deliverables or products** of the investigation?
- E. Specify: what are the **quantitative or qualitative parameters** against which the results of the investigation will be measured in terms of quality and performance? >>

### 5. Research Methodology (the how...)

<< Insert here a concise narrative that clearly establishes the research methodology for the proposed investigation. This narrative must explicitly:

- A. Establish: what is the **type of research** you will pursue? (i.e., exploratory, synthesis, experimental, qualitative, quantitative...)
- B. Establish: what is the **general methodological research approach** to the investigation? (i.e., experiments, surveys, interviews, programming...)
- C. Determine all the **resources required** to do the investigation. (i.e., manpower, equipment, hardware, software, travel, money...) >>

### 6. Research Contribution (the so what...)

<< Insert here a concise narrative that clearly establishes the research contribution for the proposed investigation. This narrative must explicitly:

- A. Establish: what is your overall **vision and contribution** for the investigation in terms of generating knowledge? (i.e.,)
- B. Establish: what is the **intellectual merit** of the investigation?
- C. Establish: what is(are) the potential **broader impact(s)** of the investigation?
- D. Identify: what are the main **potential implications or action items** (e.g., at an individual, organization, or industry level) that may result from the findings of the investigation?
- E. Establish: what are the main **measurable changes** (e.g., at an individual, organization, or industry level) that may result from the findings of the investigation?
- F. Identify: what are **possible extensions** to the investigation? >>

## APPENDIX

### Research Plan (the how will you do it...)

<< Insert here a concise narrative that clearly establishes the research plan for the proposed investigation. This narrative must explicitly:

- A. Establish the **specific research tasks** of the investigation, and for each task, determine:

<i>Inputs</i>	----->	<i>Process</i>	----->	<i>Outputs</i>
(what you need to do the task)		(what the task is)		(what comes out of the task)

- B. Establish a **research tasks timeline**, including specific milestones and specific deliverables at each milestone.

This last section will become the “agreement” between the research advisor and the principal investigator (i.e., the student). The research tasks timeline will be the basis for the Weekly Progress Reports. >>