Honors Self- Designed Proposal

Complete this proposal **prior** to your experience’s start date and upload it in the UHP Database (<https://webapps.uc.edu/uchonorsstudent>). Create an experience (“Add a new record”) in the “Tracking Project” tab and upload your proposal document as an attachment. The deadline for [submitting proposals](http://www.uc.edu/honors/experiences/experiencesubmission.html) is the 5th of each month (excluding July).

Proposals are intended to be well developed plans for your experience. However, experiences are exploratory in nature, and we are flexible with changes throughout the experience. If your experience changes after receiving approval on your proposal, contact your honors advisor to verify the changes still satisfy the requirements of an honors experience.

**Basic Information**  
Full Name: **Jonathan Kenney**

Title of Project: **“Bio-Inspired Electronics for Medical Diagnosis”**

Thematic Area(s): **Research, Creativity**

Expected Start Date: **January 2016**

Expected End Date: **April 2016**

**Guidelines**

1. Proposal submission timeline: Proposals should be submitted at least one month prior to the expected start date of the experience. International experiences require at least two months’ notice. Contact your honors advisor immediately for any exceptions.
2. Proposal length: While the quality of the proposal is most important, strong proposals are typically 3-4 pages single-spaced.
3. Proposal format: Please maintain the proposal format (e.g. headers, layout)
4. Time commitment: Experiences should consist of at least 75-90 hours of preparation, execution, and reflection. This is approximately equivalent to the commitment of honors seminars and pre-approved experiences.

**Requirements for International Travel**

All self-designed international travel experiences require two months’ notice and must be at least one week in length. You will need to provide a detailed itinerary (dates, locations and activities). If participating in independent travel (not with UC faculty, staff or student group), you must also fill out a [Worldwide: Honors Experience application](http://studyabroad.uc.edu/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=10217) via UC International.

Additionally, the [Student Travel Policy](http://www.uc.edu/content/dam/uc/about/docs/university_policies/student_travel_policy.pdf) restricts UC-sponsored travel to countries under a [U.S. Department of State Travel Warning](http://travel.state.gov/content/passports/english/alertswarnings.html). Those who wish to visit a country with a travel warning must seek an [exemption](http://www.uc.edu/international/study-abroad/applying-to-study-abroad/travel-restrictions---exemptions.html) through UC International. Students traveling without a faculty or staff leader must individually request an exemption. ***We cannot allow you to count this travel as an honors experience nor can we give you a grant without an approved exemption.***

1. **Abstract**

*Briefly describe the experience. What makes this experience personally meaningful? What goals do you have for this experience? What is your timeline for this experience?*

*\*If you are proposing an international experience, provide an itinerary.*

*\*\*If you are developing this experience from an existing opportunity (class with a study tour, campus organization, co-op, etc.) that is not already an honors seminar or pre-approved experience, how will you differentiate your experience from what is already required of other students?*

**Around two and a half years ago, my grandmother and grandfather were on a trip to New York at Mother’s recommendation. Having just traveled there, we assured them how great of a time it is. They took the trek out to the Big Apple only to be blind-sided by my grandmother’s failing health. She got deathly ill at the hotel and, fearful for her life, my grandfather rushed her to the hospital. What would ensue would be both brain wracking and inspiring for me.**

**The next years were riddled with confused reports, careless procedures, and a mess of poor communication. This period of time is a transition from paper to digital so it is certainly understandable that mistakes happen, however the amount of data lost even internally in ONE hospital makes one wonder how it can be possible; it begs the question of how, in this advanced digital age, are we having lapses in informatics and communication.**

**This is my primary concern as I look into this field of research. Had the procedures of the hospitals been better recorded and digitalized, perhaps my grandmother could have had her diagnosis much sooner. The fact that it took two years to finally say she needs a transplant is unacceptable. This sounds harsh on the workers, and this is not my intention. The fault truly lies with a haphazard system that does not lend itself to accurate and concise analysis. I hypothesize that if we can create a more efficient and easy-to-use system, nurses would be better equipped to help patients and doctors across the nation can much easier work together to get a diagnosis and solution.**

**The goal of this experience is to, primarily, work on solutions that could have real impact for patients like my grandmother who are held up by an inefficient system. What will set this apart for me as opposed to other students potentially involved is that I will be sure to work as closely with the professor as possible and put in more time on my own to meet the time requirement and make sure I am contributing as fully as possible. This would mainly look like doing my “homework” on the issues existent and communicating ideas about modifications to see if we could even push the research beyond its original goals.**

**The timeline given by Dr. Cui is a 5-10 hour week, I would additionally try to take two nights every week to do my own research on the subject matter.**

|  |  |  |
| --- | --- | --- |
| **Advisor Feedback** | | |
| Must Include:  Brief description of the experience  Personal connection to the experience  Identified goals for the experience  Timeline from start to finish  \*Itinerary (international experiences only)  \*\*Explanation of differentiated experience from what is required of other students | Required Revisions: | Effective: |

1. **Experience Advisor**

*Identify an experience advisor and provide their contact information. Explain why you chose this person and how you plan to utilize your advisor for this experience.*

Note: Advisor(s) should have knowledge or expertise in an area related to the experience. Honors advisors, undergraduate students, and family members cannot be experience advisors.

**Dr. Cui (**[cuiy3@ucmail.uc.edu](mailto:cuiy3@ucmail.uc.edu)) **will be my Experience Advisor for this research opportunity. She is highly experienced in her field and is ecstatic about taking both experienced and inexperienced students on for this project. She will be a great asset in furthering my research portfolio and a great help on shaping my ability to be a competent and beneficial researcher.**

|  |  |  |
| --- | --- | --- |
| **Advisor Feedback** | | |
| Must Include:  Experience advisor name and contact information  Description of why advisor was selected  Specific plans to engage with advisor | Required Revisions: | Effective: |

1. **Connection to Learning Outcomes**

*List 3* [*learning outcomes*](#ThematicAreas) *from any thematic area(s). Provide specific activities you plan to engage in to help you make progress towards the chosen learning outcomes. Describe how you expect each activity to help your progress. Include an estimated time commitment for those activities.*

1. **Articulate the broader significance of a creative project and the value of its contributions. (CREATIVITY)**

**This research clearly has a great deal of significance to me and although it may seem a fairly small scale in this project, the applications of the research being done are endless. This research can spread to more than just diagnosis, in fact the technology could be applied to creating more efficiency throughout the whole healthcare system.**

**In order to accomplish this goal, I will be researching other applications of the research on my own time to see where else this kind of technology can be applied; this could be by looking into cross-hospital communication and even more structurally sound database systems for the hospitals to use. The time commitment for this will be 1-2 hours a week outside of the research periods.**

1. **Motivate and collaborate effectively with others towards completion of shared projects or goals. (LEADERSHIP)**

**Working in groups collaboratively has never been my strongest trait. Hopefully through this project I can learn how to better work with others in order to more effectively reach the goal. This is a skill that can drastically improve performance in the corporate and research worlds. I believe that the more I am able to improve on this short-coming, the more well prepared I will be to enter the next stage of my professional life.**

**To accomplish this outcome, I will attempt to hold meetings with other researchers on the project to discuss results and go over any research done outside of the lab. This will ideally allow us to find other outlets for the research and better understand as a whole the goals and requirements of completing the project. These would likely be 1-2 hour meetings either weekly or biweekly.**

1. **Identify and apply appropriate methods to collect and organize data for analysis. (RESEARCH)**

**A large part of research is data collection and analysis. As we move through various iterations and trials, I hope to find efficient methods of acquisition and display. Doing this will make arriving at a product much quicker as there will be less time spent on nitty-gritty data and more time spent on looking at the big picture of the research and working towards the end goal. This will be a great outcome as mastering data analysis is integral to being an effective researcher.**

**I will accomplish this by looking at different potential methods by which to collect data, find the one that seems most adequate for this task, and do any further refinement to best tailor the system to the project. This will mostly be done in the early stages, however analyzing data will always be a priority as we move through. I will spend around 3 hours a week looking into data collection and analysis at first (even working on it before the research officially starts if that would be helpful), and as time goes on this task will become less of a priority and move to more of a 1 hour commitment weekly.**

|  |  |  |
| --- | --- | --- |
| **Advisor Feedback** | | |
| Must Include:  3 learning outcomes explicitly identified from any thematic area(s)  Examples of activities and explanation of how each will assist the progress towards the chosen learning outcome  Estimated time commitment for each activity | Required Revisions: | Effective: |

1. **Academic Resources Connected to the Learning Outcomes**

*List 1-2 academic resources you plan to use to enhance your understanding of the learning outcomes. Explain how each resource connects to your learning outcome(s) and helps you execute your experience. Please include the title and author/creator for each resource.*

Note: Academic resources are professional works that can be used to assist your understanding of the topic. Some examples are books, documentaries, videos, or research journals.

# *Computational Technology for Effective Health Care: Immediate Steps and Strategic Directions* by National Research Council

**This work has a lot of information about engaging the engineering community in healthcare informatics. This connects to my creativity outcome as it will allow me to explore how technology like this can be used at large in the healthcare system.**

# *Enhancing Communication & Collaboration in Interdisciplinary Research* by Sage Publications

**This work will allow me to look into researched and tested methods of better communicating in the research world. It is particularly helpful as this research is interdisciplinary and there will be many different motives and skillsets working on this project. In order to effectively lead and collaborate, I will use the insights provided in this book.**

|  |  |  |
| --- | --- | --- |
| **Advisor Feedback** | | |
| Must Include:  1-2 academic resources connected to the learning outcomes  Title and author of each resource  Description of how resources will help make progress towards learning outcomes and execution of experience | Required Revisions: | Effective: |

1. **On-going Reflection**

*The on-going reflection should help you process the experience and progress toward your chosen learning outcomes. Describe your method for reflecting throughout the experience. Indicate specific reflection questions/topics you plan to use to guide your reflective process.*

Note: A variety of methods can be used for on-going reflection. Some examples are videos, drawings, blogs, songs, and journals. Reflection topics to consider include your ideas/insights about the experience, connection to other areas of involvement, and your progress towards the learning outcomes.

**In order to reflect throughout this experience, I will be doing a weekly journal. In this, I will ask what progress on the research was made, and what progress on the learning outcomes were made. In addition to answering those questions, I will consider how I want to build on the past week and what I plan to follow through on the following week. Ultimately the reflection will be a tool to allow me to keep perspective and make sure I process the knowledge I gain from the experience. Occasionally I would like to do progress videos in order to document the process and create references to learn from on future research projects.**

|  |  |  |
| --- | --- | --- |
| **Advisor Feedback** | | |
| Must Include:  Method for ongoing reflection  Reflection questions/topics clearly specified | Required Revisions: | Effective: |

1. **Sharing Your Learning**

*Describe how you plan to actively share what you’ve taken away from this experience with a targeted audience. Explain why you chose this specific audience.*

Note: While social media can be an effective platform for sharing, only posting on your personal learning portfolio or social media account(s) does not reach a targeted audience.

**My mother and aunt both have worked in healthcare. Through these connections, and with Dr. Cui’s council, I can share findings and progress with hospitals and other medical units. Additionally when the research is done, I will look into various platforms such as blogs, magazines, and forums where this research could be received and analyzed. Ultimately the goal is to take the results to the places it is applicable to gain feedback and hopefully get the technology implemented or at least adopted for revision and refinement.**

|  |  |  |
| --- | --- | --- |
| **Advisor Feedback** | | |
| Must Include:  At least one method to actively share take-aways/learning from the experience  A specific audience and why the audience was selected | Required Revisions: | Effective: |

1. **Budget (if applicable)**

*Provide an itemized budget and indicate your source for cost information.*

*\*If you are engaged in an unpaid internship or research, please indicate the number of weeks and hours per week you plan to participate.*

|  |  |  |
| --- | --- | --- |
| **Advisor Feedback** | | |
| Notes:  Detailed budget of expenditures with sources to justify budget estimates  \*Indicates the number of hours per week and number of weeks of participation | Required Revisions: | Effective: |

**Thematic Area Learning Outcomes**

**Learning Outcomes for the Community Engagement Thematic Area:**

By engaging in this thematic area, you will make progress towards learning how to…

* Identify and differentiate multiple ways to contribute towards the development or achievement of the community’s goals.
* Develop a thorough understanding of the world view, beliefs, experiences, self-consciousness, or history of community members through collaboration.
* Articulate the purpose of service on a social issue or public policy and how service mutually enhances individual growth and the common good.
* Explain how education, advocacy, mobilization, or public policy can influence social issues and transform communities.

**Learning Outcomes for the Creativity Thematic Area:**

By engaging in this thematic area, you will make progress towards learning how to…

* Discover new techniques to gain knowledge, consider options, make new connections, and ask questions.
* Explore a new creative competency/medium or seek new ways to engage an existing competency/medium.
* Understand and optimize the use of people, technology, physical resources or community in a creative process.
* Articulate the broader significance of a creative project and the value of its contributions.

**Learning Outcomes for the Global Studies Thematic Area:**

By engaging in this thematic area, you will make progress towards learning how to…

* Develop practical travel skills that promote safe, stimulating, and productive travel throughout your life.
* Summarize the interconnectedness of geography, history, cultural traits and world issues.
* Articulate the interdependence of professional fields to address current and impending global issues such as technology, the environment, human rights, or politics.
* Demonstrate an understanding of cultural diversity by acknowledging the impact of their own identity and the experience of social norms, customs, or beliefs that are different from their own.
* Demonstrate a sense of empathy, respect, and appreciation for others to build meaningful cross-cultural collaborations toward mutual growth and prosperity.

**Learning Outcomes for the Leadership Thematic Area:**

By engaging in this thematic area, you will make progress towards learning how to…

* Formulate and manage a shared vision and develop goals towards its achievement.
* Motivate and collaborate effectively with others towards completion of shared projects or goals.
* Develop strategies to identify and respond to challenges and obstacles.
* Identify personal strengths and areas of growth and evaluate opportunities to maximize skills and abilities.
* Synthesize the current trends related to a specific issue or field and evaluate how thought-leaders are currently addressing them.

**Learning Outcomes for the Research Thematic Area:**

By engaging in this thematic area, you will make progress towards learning how to…

* Demonstrate the ability to locate, interpret, and critically evaluate primary sources appropriate to field.
* Identify and apply appropriate methods to collect and organize data for analysis.
* Analyze and interpret the meaning of results.
* Produce dissemination appropriate to the field in order to share the results or impact of the research.
* Articulate the broader significance of the research project and its relationship to other fields, research and ideas.