



Systems Synthesis Project Proposal Template

Overview

Systems synthesis Projects are a culminating experience of the masters programs at the Heinz College. These projects, conducted in lieu of a thesis, provide students with hands-on experiences that parallel the activities and issues they will encounter in the workplace. Working for a client organization, groups of students spend a full semester addressing an issue of importance to the client. Under the direction of a faculty advisor, the students identify the issue, gather and analyze data, and prepare findings and recommendations for the client. The project provides students with “real-world” experience in teamwork, project management and client relations. It also allows students to integrate the skills learned from their coursework at Heinz--including economics, statistics, management science, finance, organizational management, policy analysis, database management, and others—as they tackle important policy and management problems.

The project provides benefits to both the students and the client. For the client, projects provide:

- the ability to address issues for which current staff do not have the time or expertise
- “fresh” perspectives on institutional issues
- more than 1100 hours of pro-bono work by graduate level students and faculty
- the opportunity to “preview” prospective employees

Projects cover a myriad of issues: evaluating programs, analyzing policy issues, examining organizational operations, creating technology solutions for management issues, and others.

Characteristics of Successful Projects

Successful projects have a number of common factors:

- Committed students and a committed client. In general, the client can expect to spend approximately 40 hours over the course of the semester working with the project team. This includes formal presentations (typically a total of three presentations at the beginning, midpoint and end of the project) as well as periodic interaction by phone, email and in person. The client should designate a project team contact from its staff. The client staff should also be willing to provide feedback, to challenge the students’ ideas and proposals and to encourage high level work from the project team.
- A scope that can be accomplished within a 15 week semester. Students receive grades for the project, which is a graduation requirement. Students are not compensated for their work on these projects.
- Data that can be analyzed to address the problem. The type of data needed will depend entirely on the problem the project team addresses. In some cases, the data may be publicly available. In others, the client may need to provide its own data.

- The client's acknowledgement that, due to the 15 week duration of the project, the project team cannot implement its recommendations or provide ongoing support once the project ends.
- The client's awareness that the project is a learning experience for students, whose work might include errors in data analysis or in recommendations.
- It's desirable but not essential to hire as summer interns 2-3 students who would be eligible to participate in the project to become familiar with the system under consideration and to begin data collection for the project so that the project can begin with key data in hand.

Selection Process

Please note that we always receive more proposals than we have available projects, and all submitted proposals are vetted through the Systems faculty committee. As a result, it is important to communicate to your prospective client that this is merely a proposal and may or may not be selected as a final project.

The deadline for Fall 2016 projects is July 20, 2016 and the deadline for Spring 2017 projects is October 20, 2016.

Systems Synthesis Proposal Guidelines

Submit your proposal to Gladys Perez (gladysp@andrew.cmu.edu) by July 20, 2016 for a Fall 2016 project or October 20, 2016 for a Spring 2017 projects. Submit the proposal in a **Word Document**. Please provide the following information in **two pages or less**:

- Title of the Project:*** The title should help others understand the nature of the project and the client.
- Timing:*** Fall 2016 or Spring 2017
- Client:*** List the organization name for which the project will be conducted. Describe the organization—what it does, how large it is, what sector it is in (public, non-profit). Please note that project clients should be either public sector or non-profit organizations. Ensure that the client is interested in the project and will help in its execution.
- Issue Definition:*** Detail the problem, issue or opportunity that your project will address. You should be able to describe the problem or issue in several sentences. Provide background that helps others understand the impact of the issue on the organization, factors that may have led to it and how this impacts the organization, the community at large or public policy in general, as appropriate to the type of project.
- Scope of Work:*** Describe the work that will be required in the project. What are the data needs (primary or secondary) and their availability? What type of analysis do you anticipate undertaking? What are the project's major activities? Do you anticipate significant challenges and if so, what are they likely to be?
- Available Data:*** Describe the scope of the data you have available to share with the student team (i.e. data size, fields, data dictionary availability).
- Expected Deliverable:*** Describe what you expect your final product will be (e.g., a new process, a database, a tool the client can use in its operations). What concrete product, process, recommendations, etc., will your project generate? Projects should have a set of recommendations that the deliverable supports.
- Skills Required:*** Which skills from the core coursework will be used in this project? Ideally, Systems projects should employ a variety of quantitative and qualitative skills that you have developed in other Heinz coursework. Use this link to access curriculum: <http://www.heinz.cmu.edu/school-of-public-policy-management/public-policy-management-msppm/curriculum/curriculum-by-track/two-year-program-pittsburgh/index.aspx>
- Advisory Board:*** Advisory boards are composed of professionals and stakeholders who can provide guidance, information and feedback on your project. Provide initial ideas for members of the advisory board. This can include the names of specific individuals or the types of organizations and positions within them that would be of value to your project. *Please do not contact potential advisory board members until the project has been selected.*

Faculty Advisor:

Suggest a faculty advisor (optional). Indicate if you have received confirmation from the faculty member to serve as an advisor.

Proposer contact info:

Name, email, phone #

Client point of contact:

Name, email, phone #

Client POC availability:

Is the client point of contact available to provide feedback, to challenge the students' ideas and proposals and to encourage high level work from the project team? Is the client available for at least 2 hours a week?

Sample Proposal

Project Title: Reducing Prison Populations by Bringing Risk Assessment into Sentencing Guidelines

Faculty Advisor: Alfred Blumstein

Timing: the project will begin in the fall semester of 2012

Client: Pennsylvania Commission on Sentencing and Allegheny County Court of Common Pleas and

Issue Definition: The Pennsylvania Commission on Sentencing (PCS) is charged with developing sentencing guidelines to provide guidance to judges of the appropriate sentence for a particular convicted offender based on the seriousness of the offense and the extent of that offender's prior criminal record. Those guidelines had been in place with relatively minor modifications for almost 30 years. In the process, Pennsylvania's prison population has about quintupled, and there is growing concern about finding ways to reduce that population, albeit without inducing a significant growth in crime rates. One potential approach is to augment the guidelines for the relatively less serious crimes with a risk assessment so that offenders estimated to be of low risk could be returned to the community rather than sent off to prison. The challenge for the project is to use data on offender characteristics as and their criminal history record to develop a risk assessment instrument that could augment the factors in the sentencing guidelines.

Scope of Work: The project will begin with a definition of the need by the Executive Director of the PCS it will provide background information on the current state of the prison population, its dramatic growth over the past 30 years, the structure and operation of the sentencing guidelines, and how those might be modified to accommodate the concern for reducing the prison population. At the beginning of the project, he will also provide data on the 12,000 or so offenders sentenced in 2005 to prison, jail, or probation in Allegheny County, including information on their prior record and other characteristics that could be relevant to the development of a risk assessment instrument. We will also have guidance from judges From the Allegheny County Court of Common Pleas on how they use the sentencing guidelines and how they might like to see risk assessment incorporated. After analysis of these initial data, the project will use statistical analysis to develop the risk assessment instrument, test that instrument against the criminal history records in the years after 2005, iterating to find a stronger version of the instrument.

Expected Deliverables: The project will operate to reach closure by the end of the fall semester on a project report directly to PCS recommending approaches for best incorporating risk assessment into the sentencing guidelines, including a best estimate of a risk assessment instrument based on the Allegheny County situation. The report will provide empirical support for this recommendation, including an estimate of the anticipated impact on prison populations. We anticipate providing an oral presentation of our project plans and initial work to an Advisory Board no later than mid-October and a final presentation along with a draft of the final report by the end of November.

Skills Required: The skills required for the project cover the full range of the PPM core-course requirements, with particular emphasis on both information systems for organizing the diverse sources of data from the Commission and the Court, and the statistical and analytical skills to carry out the analyses of those data to assess the effectiveness of alternative approaches to developing the risk assessment instrument. The skills of management science will be important in assessing the effectiveness of that instrument and its effect on prison populations. Of course, we will need some knowledge of the criminal justice system and its operations, but that knowledge will not be required beforehand and experience has shown that it will be learned quickly as the project gets under way.

Advisory Board: we anticipate recruiting an Advisory Board containing individuals with the following positions and expertise:

- the Executive Director of the Pennsylvania Commission on Sentencing
- the research director of the Pennsylvania Commission on Sentencing
- one or two judges from the criminal division of the Allegheny County Court of Common Pleas
- the Court Administrator
- a senior manager of the Allegheny County probation department
- representatives of social service agencies dealing with Allegheny County offenders
- methodological expertise from Heinz College faculty members