To protect class time, employee and student rights and College liability, we need to coordinate external research being conducted on campus involving our employees or students. We want to ensure that study participants are fully aware of the nature of the research, their rights protected, and that the research aligns with the mission, vision, core values and goals of Mt. SAC.

The following guidelines apply to all external research projects involving Mt. SAC. An external research project is defined as any research project or study which is outside the normal day-to-day operations of Mt. SAC. A typical example of an external research project is one conducted by a masters or doctoral student who wishes to ask Mt. SAC students or employees to participate in a study. Examples of normal day-to-day operations include program review (i.e., the new Planning for Institutional Effectiveness), Student Learning Outcomes/Administrative Unit Objectives and projects which are part of a Mt. SAC course (e.g., research course).

Anyone -- employees, students or external persons -- who wishes to initiate an external research project must secure permission through completing the attached Research Project Approval Form. The form should be sent to the Research Office and the office will review the study, discuss changes/implications with the principal investigator and make final recommendations to the appropriate Vice President. A copy of all research findings will be kept in the Research Office.

Mt. SAC employees and students as well as external persons wishing to conduct on-campus external research projects should be directed to Barbara McNeice-Stallard, Director of Research and Institutional Effectiveness at (909) 594-5611, extension 4109, or research@mtsac.edu

Thank you.
The following guidelines apply to all external research projects involving Mt. SAC. An **external research project** is defined as any research project or study which is outside the normal day-to-day operations of Mt. SAC. A typical example of an external research project is one conducted by a masters or doctoral student who wishes to ask Mt. SAC students or employees to participate in a study. Examples of normal day-to-day operations include program review (i.e., the new Planning for Institutional Effectiveness), Student Learning Outcomes/Administrative Unit Objectives and projects which are part of a Mt. SAC course (e.g., research course).

1. Any individual, group or agency desiring to conduct research at Mt. SAC must obtain the written permission of the Director of Research and Institutional Effectiveness and at least one Vice President.
2. Before permission is granted, a written proposal must be submitted to the Director of Research and Institutional Effectiveness. The proposal will include brief summaries of the rationale for the study, the methodology to be used, and the expected outcomes (see below).
3. Normally, Mt. SAC cannot provide facilities of any type for external research projects.
4. Unless the College feels that participation in a particular project is both educationally valuable and a natural part of the course content, class time will not be used for any project. In any event, the faculty member's permission must be obtained before class time can be used.
5. Participation in any project must be voluntary and all participants should be informed as to the purpose of the project and the scope of their involvement.
6. As a condition of approval of the research study, it should be noted that Mt. SAC students or employees involved in any research project will not be identified when the findings are published. The name of the College will not be identified in any publications.
7. Approval of external research projects is based on many aspects including time involved and whether the project relates to the College’s mission, vision, core values and goals.

This *Research Project Approval Form* is to be completed and approval received before research begins. The completed form should be sent to the Research Office. The Research Office will review the study, discuss changes/implications with the author and make final project recommendations to the appropriate Vice President. If the study is approved and the research conducted, a copy of the results must be sent to the Research Office.

**NOTE:** Please see the attached project proposal for additional information.

<table>
<thead>
<tr>
<th><strong>PROJECT INFORMATION</strong></th>
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<tbody>
<tr>
<td><strong>Project Title:</strong> Community College Offerings to Seniors: A GIS Examination of the Extent a Community College Offers Courses to its Senior Community</td>
</tr>
<tr>
<td><strong>Principal Investigator:</strong> Claire Stallard</td>
</tr>
<tr>
<td><strong>Educational Institution:</strong> Claremont Graduate University</td>
</tr>
<tr>
<td><strong>Mailing Address:</strong> (principle investigator’s) 1367 Sunnyfield Circle Unit 145, Upland, CA 91784</td>
</tr>
<tr>
<td><strong>Phone Number:</strong> 909-608-1686</td>
</tr>
<tr>
<td><strong>Email:</strong> <a href="mailto:claire.stallard@cgu.edu">claire.stallard@cgu.edu</a></td>
</tr>
<tr>
<td><strong>Faculty Advisor Name:</strong> Prof. Brian Hilton</td>
</tr>
<tr>
<td><strong>Faculty Advisor Mailing Address:</strong> Claremont Graduate University, School of Information Systems and Technology 130 E. 9th Street, Claremont, CA 91711</td>
</tr>
<tr>
<td><strong>Faculty Advisor Phone Number:</strong> 909-621-8209</td>
</tr>
<tr>
<td><strong>Faculty Advisor Email:</strong> <a href="mailto:brian.hilton@cgu.edu">brian.hilton@cgu.edu</a></td>
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</tbody>
</table>
1. What is the rationale or purpose of the study?
   This study is the main project assignment for a GIS class (IS373) currently taken. The project must involve real data. Utilizing MtSAC’s data together with the census data provides a good visual snapshot of the level of service provided to the college’s senior community.

2. What are the main goals or objectives or outcomes or research hypotheses of the study?
   To be able to visually see if MtSAC’s offering of courses in the Older Adult Program is reaching the intended market district.

3. Who will be the subjects/participants? How many? Will they be compensated? If so, how?
   No subjects/participants will be required. All data is from the MIS.

4. Describe in detail all procedures to be performed on the participants (i.e., recruitment, surveying, debriefing, etc.)?
   The data extraction of senior enrollments will include course, course location, course address, enrollment’s home address, enrollment’s gender and date of birth if possible. Student ID or any other unique identifier will be altered by the Research and Institutional Effectiveness office before releasing the data.

5. What assessment instrument(s) (e.g., survey, focus group) will be used?
   Mapping of MtSAC district, census population of seniors in district, location of courses offered and of seniors enrolled.

6. What are the potential risks to the participants?
   None.

7. Describe how you will deal with confidentiality and anonymity?
   Senior clusters of less than 10 will be aggregated into larger regions or omitted. No identifying demographic characteristics will be displayed or used (e.g. females in a particular area). FERPA principles and policies will be adhered to. MtSAC policies of outside research will also be adhered to – for example no mention or identification of the college’s name will occur.

8. How will you obtain informed consent?
   Not applicable.

9. What are the suggested date(s) for the study?
   Present to May 1, 2008

10. How will the data be used?
    See # 4 above. Data will be used in main project for Master’s degree class. Results will be written in a report and submitted to the Research and IE office. Formal presentation will occur in May to my class and to MtSAC if desired.

11. If class or work time is needed, do you have an internal contact person who is already willing to comply? (Note: using class time is discouraged)
    Work time extracting and preparing data will be needed. Internal contact person is Director of Research and Institutional Effectiveness.

12. Which classes will be used in the study? Have the faculty given permission for the study to be done in class?
    No classes will be used in the study. Data is strictly from the MtSAC MIS.
Also include a HARD copy of your full proposal if it has received approval from your local Institutional Review Board (IRB). This copy should include both the signature page of approval from your IRB and all material reviewed by your IRB.

When the project is completed, a summary of the key findings should be sent to the Research Office.

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<tr>
<th>SIGNATURE &amp; DATE</th>
<th>APPROVAL/NOT</th>
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<tbody>
<tr>
<td></td>
<td>□ Approved</td>
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<tr>
<td>Director Research &amp; Institutional Effectiveness</td>
<td>□ Not Approved</td>
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<td>Reason</td>
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<td>Vice President</td>
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<td>Reason:</td>
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<td>Principal Investigator(s) Signature &amp; Date</td>
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<tr>
<th>Campus Volunteer Enrollment Form(s) signed?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt. SAC Emergency Response Quick Reference Guide given?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Other Notes:</td>
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The principal investigator and all other persons coming onto campus for the purposes of this project MUST also complete a Campus Volunteer Enrollment Form as well as become familiar with a carry and copy of the Mt. SAC Emergency Response Quick Reference Guide. The aforementioned documents are available from the Research Office.

Source: Sections of this form were adapted from Piedmont Virginia Community College’s form.
Project Title

Community College Offerings to Seniors:
A GIS Examination of the Extent a Community College
Offers Courses to its Senior Community

Project Goal

The primary goal of this project is to examine the extent and impact of educational opportunities for seniors offered by a southern California community college.

Research Problem

In the context of demographics, there is a cluster of the general population commonly referred to as the “baby boomers”. These are people born generally between the years 1946 and 1964. This cluster of the population is large compared to clusters of other years and appears as a bubble on population pyramid charts. As people get older and continue to live longer this bubble shifts up the population pyramid. The following charts illustrate the general area representing the baby boomer population in the United States (shaded area) in 2000 and projected in 2025.

![Population Pyramid Chart 2000](chart1.png)

*Source: U.S. Census Bureau, International Data Base.*

![Population Pyramid Chart 2025](chart2.png)

*Source: U.S. Census Bureau, International Data Base.*
At a local level the extent of this baby boom bubble is unknown, yet what is known is that we are living longer and there will be more seniors in the near future.

As the number of seniors is increasing, society and the community at large must address their needs and demands. One area is education. It is human nature to be constantly learning throughout our lifetime and even during our senior years we continue to do so, although what we learn as seniors is nowhere near what we learn during our teenage years or in our twenties. The community college system of education has the means, the expertise and the resources to provide this level of education to our seniors.

Specific Questions/Issues

How large is the senior population near this local community college? Are there facilities nearby for these members of the community to easily attend? Is the local community college offering courses to its senior community and if so to what extent? Are there any senior communities near the college that are being missed and present themselves as opportunities for the college (market penetration) to expand its service to the community? It is hoped this project will provide answers or insight into these specific questions.

Even though a region may have a high concentration of a senior population, and even though the region may have a local community center facility or the college may use a senior’s complex, it does not mean successful enrollment. The type of courses offered and the frequency and time the courses are offered must also be taken into account. The Older Adult Program under the Non-Credit Department at this particular community college determines what to offer, how to offer it and when. It is hoped this project will shed light on the where to offer it aspect.

In the state of California community colleges operate in assigned districts. These defined regions encompass specific communities. The scope of this project will be limited only to the
community college’s district. Regionally, this district is within the Inland Empire in southern
California.

Community colleges have a policy requiring confidentiality when research using its data
and name is used by non-college researchers. Compliance with this policy will occur by not
making any reference to the name of the community college, rather being referred to only as the
community college or as the college for short. The college also has a process for research
approval, managed by its Research and Institutional Effectiveness Office. This project will
comply with all forms and requirements, policies and conditions, as well as disclosures and
copyrights set forth by the college.

Confidentiality of the data on the seniors enrolled in courses from the community college
must be guaranteed and ensured. Individual identification will not be allowed and analysis will
work with minimal aggregated data. For example, if there are only a few (less than 10), seniors
in a particular region, they will be aggregated into a larger region. Student identification numbers
will be fabricated by the college’s research office before releasing the data to this researcher.
Compliance with the policies and principles of FERPA (Family Educational Rights and Privacy
Act) will be maintained.

**Data Sets Used**

U.S. census data will provide profiles and data of the senior population in the community
college’s district. The ESRI Data & Maps Media Kit (2003) will the primary data set used, but
may be supplemented with data sets obtained online.

Senior community center locations will also be geocoded. This data will be collected
from the college as well as collected from the surrounding community civic directories both
online and in print.
Recent enrollment statistics for senior courses will be extracted from the community college’s information system and adjusted to ensure confidentiality. Limited demographic information will also be collected – age and gender.

**Software Used**

The primary software to be used to map, plot and present the data is ArcGIS version 9.2. Manifold version 8 may be used to create maps if they are not currently available or if the versions available are inefficient for this project’s purpose.

Internet access will be required for both research and data downloading primarily from the U.S. Census bureau, hence Internet Explorer version 7 will also be used.

Standard pc-based office software will be used. For data preparation it will be Excel (version 7). For report composition and preparation Word (version 7) will be used. Presentation of the report to the college and the class will be with PowerPoint (version 7).

**Other Resources**

Other resources will be the staff and facilities of the community college’s research department and their Older Adult Program. The professor for IS373 from Claremont Graduate University and possibly the GIS Services of the Honnold/Mudd library at the Claremont Colleges may also be used.

**Analysis**

Analysis will consist of first defining the college’s district. Then, the senior population around the community college’s district will be mapped using census data. Senior community centers will also be added and plotted within the college’s district. Data from the college’s information system will indicate the degree or extent that the college is offering courses for the senior community, including their locations.
**Evaluation of Results**

Visual interpretation of the maps will illustrate the extent of market penetration of non-credit courses for seniors offered by the college. Comparison will be possible of what is out there (extent of the senior population), to what is offered by the college (extent of the courses offered), all defined within a specific region (the local community). A level of effective market coverage by the college can be extracted. Opportunities for expansion of educational offerings to seniors may be discovered.

Presentation of results will be made to the class and to the community college.

**Foreseen Difficulties**

Gaps in the data from the community college’s senior enrollment database may exist. These gaps could be in their dates of birth or age as many seniors typically refuse to disclose that information. It is assumed that if it is a course under the Older Adult Program only senior citizens may enroll.

Additional difficulties may be in correlating the latest census data with the latest senior community center locations as recently there has been a boom in the real estate market in southern California as well as a growth in population.

**Learning Outcomes From This Project**

A learning outcome of this project is to witness, first hand, the extent GIS can be used in a real world situation. Exposure to the software and the extent data is used in GIS is also expected to be learned. Appreciation of accurate, concise, consistent data is anticipated.