Abstract of Sabbatical Leave Proposal

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DEPARTMENT: Library

CHECK (X) THE TYPE OF SABBATICAL LEAVE: _____ ADVANCED ACADEMIC STUDIES, or _X__ NON-TRADITIONAL ACTIVITIES (may partially include academic studies)

(select Advanced Academic Studies only if all 12 semester/18 quarter units are upper division/graduate credit. Otherwise, choose Non-Traditional Activities.)

SABBATICAL LEAVE PROPOSAL

The purpose of my sabbatical project is two-part: first, to investigate the role of academic librarians in supporting student and faculty use of geospatial information and Geographic Information Systems (GIS) and second, to develop foundation skills in working with geospatial information and GIS to enhance library support in this emerging field. The sabbatical project objectives will be achieved by conducting a comprehensive review of academic literature, enrolling in an undergraduate course in GIS, and producing a web-based resource guide for use by students, faculty, staff, and the community. Geospatial information and GIS are becoming more prevalent in academic libraries as students find new ways to analyze and visually present information. Increasingly, librarians will be called upon to help research and map information from diverse sources as the US Census or geologic surveys. The proliferation of free web-based resources like Google Earth and ArcGIS-Explorer allow instructors and students to create visual representations in such diverse disciplines as sociology, marketing, political science, and history. Upon completion of my sabbatical, I will be in a position to lead the library in supporting GIS as well as serve as a resource to MiraCosta College students, faculty, staff, and the broader MCC community.
III. Identification of Objectives, Description of Proposed Activities & Documentation

Introduction:

Academic librarians are on the leading edge of digital information. Our experience with online resources, information technology, and multimedia places us at the center of learning and innovation on campus. Librarians are in a unique position to observe and anticipate emergent trends in student information needs across all disciplines. As the Emerging Technologies Librarian at MiraCosta College, I explore and introduce new technologies in the library to better meet the research needs of MiraCosta College students.

Over the past several years, I have observed in my work as a librarian that students are increasingly relying on visual information to assist them in learning new content and concepts. My observations have been confirmed in recent academic literature on evolving trends in teaching and learning. College students are exposed to visual media in many forms and formats, and are accustomed to grasping ideas and conveying meaning with visual imagery. Increasingly, students and instructors are using spatial or geographic information to help visualize information, solve problems, and understand spatial relationships. Maps have long been the medium for visually representing geographic information, and librarians have been helping users interpret maps for just as long.

Geospatial information is data or information that is tied to a specific geographical location. We see examples of geospatial information every day in the media, such as a color-coded weather map. The image reveals hidden patterns and relationships that are not always readily apparent in textual information or numeric data. The availability of geographically referenced information has proliferated with the introduction of geospatial tools or software applications such as GPS systems, Google Maps, and GIS (Geographic Information Systems). A GIS is a computer-based data collection, input, storage, analysis, and cartographic visualization technology that integrates data and information from diverse sources into a geographic database.

GIS and geospatial information are no longer strictly in the domain of geography. Students and faculty in such diverse disciplines as history, business administration, sociology, and oceanography are using geospatial information to convey new content and concepts. As our population continues to become more mobile and our societies and economies become more global, understanding the importance of place and location become even more critical. The MCC Library serves as an information hub for the entire college community and maintains an interdisciplinary and collaborative approach that provides relevant information and assistance to all of its users, regardless of their academic discipline. If granted this sabbatical, I intend to develop proficiency in working with geospatial information as well as lead the MiraCosta College Library in providing innovative resources and assistance to MiraCosta College students and faculty in this emerging field.
**Objective #1:**

a. To learn basic geospatial concepts and develop a foundation in Geographic Information Systems.

b. I will accomplish this objective by completing an undergraduate introductory course in GIS (Geographic Information Systems). I plan to enroll in GEO 120: *Introduction to Geographic Information Systems and GIS Software* at Palomar College. GEO 120 is a 4-unit credit course.

**Palomar Catalog Description:**

GEO 120: *Introduction to Geographic Information Systems and GIS Software*

An introduction to the mapping sciences with a primary focus on Geographic Information Systems (GIS). Covers the trends, history, structure, applications, hardware and software, and basic operations of GIS in order to provide a foundation for the use of GIS software. Related geographic technologies to be examined include mapping, aerial and satellite imagery, and Global Positioning Systems (GPS). The lab portion will provide introductory training in the use of ArcGIS software including identifying, evaluating, and inputting spatial data, developing and using raster and vector data sets, converting data from one form to another, and applying programming with GIS software.

Palomar College has consistently offered GEO 120 in both fall and spring semesters for the past several years. In the unlikely event that the course is not offered, I propose the following options for meeting this objective.

- GEOG 124: *Geographic Information Science and Spatial Reasoning* – 3 credits MiraCosta College: This course has not been consistently offered at MCC. I prefer the 4-credit class at Palomar because it includes a lab component. This course introduces the fundamental concepts, calculations, and applications of modern geographic information science, including geographic information systems, cartography, remote sensing, spatial analysis and statistics, and global positioning systems. The course also examines the use of critical technologies in addressing human and environmental problems.

- CSU San Marcos offers a 3-credit undergraduate course in GIS

- CSU Stanislaus offers a 3-credit online course in GIS

- ESRI (creator/publisher of ArcGIS software) offers online courses ranging from 3 to 24 hours each. I would plan to take a sequence of online courses that is equivalent to the 4 credit Palomar course.

As a result of completing a GIS course, I will be able to:

- Explain fundamental geographic concepts and technologies such as geographic information systems, cartography, remote sensing, spatial analysis and statistics, and global positioning systems

- Locate and organize data or information resources for use in spatial analysis.

- Use a geographic information system (GIS) to formulate a spatial problem, perform analysis and synthesize a solution.

- Use techniques of digital mapping for analytical and representational purposes.

c. Documentation and estimation of time spent on my activity:

I will provide an official transcript indicating successful completion of the 4-unit credit course or equivalent course. According to the Sabbatical Handbook (p. 2), a 4-unit course is equivalent to 192 hours toward the 576 required sabbatical hours. In the unlikely event that I must enroll in a 3-
unit course rather than the 4-unit course, I will enroll in multiple online courses offered by ESRI (Environmental Systems Research Institute) for an equivalent number of hours required for one additional credit hour.

Objective #2:

a. To identify best practices for supporting geospatial information and GIS in academic libraries and evaluate the applicability to the MiraCosta College Library.

b. I plan to accomplish this objective in the following steps:

1. I will conduct a comprehensive review of existing academic literature on current practices in academic libraries. I will specifically be looking for information on levels of library support, available resources, and documented cases of collaboration between library and discipline faculty. As a result of the review, I will compile an annotated bibliography of current academic literature on the topic of academic library support for geospatial and GIS-related research. I intend to submit the annotated bibliography for publication in professional library journals such as *The Journal of Academic Librarianship* and *Library Trends*.

   Estimated hours to complete this component: 150 hours

2. Identifying academic libraries at two- and four-year institutions that are offering or planning to offer support services for geospatial information and GIS.

   Estimated hours to complete this component: 25 hours

3. Visiting two to three institutions identified in my research to assess the extent of resources and services offered by those libraries. If a visit is not feasible, I will conduct in-depth interviews with key individuals using some form of video or teleconferencing technology such as Skype.

   Most major research university libraries offer some degree of GIS support or resources. However, four-year schools and, to a lesser extent, two-year colleges are starting to incorporate basic support services. The libraries at North Carolina State University, University of Texas, and University of Oregon offer well-developed support services. In California, UC Berkeley, UC San Diego, and the Claremont Colleges are incorporating GIS into their services. I anticipate my literature review will uncover libraries at two-years colleges that are introducing some form of GIS support. My expectation is to scale and adapt appropriate resources and services to the MiraCosta College Library.

   Estimated hours to complete this component: 100 hours

The product of this research will be an in-depth understanding of GIS-related resources and services currently being supported by academic libraries.

c. Documentation and estimation of time spent on my activity:

   I plan to create a bibliography of articles and other information sources consulted in my research. I will also provide a summary of my findings for each of the libraries I visit or individuals I interview. Using a timesheet, I will document the hours I’ve spent researching the topic,
interviewing librarians, preparing for and visiting selected academic libraries, and documenting my research. I estimate approximately 275 hours to complete this objective.

**Objective #3**

a. To create web-based resource guide for geospatial and GIS information for use by students, faculty, staff, librarians, and the community.

b. I plan to accomplish this objective by applying what I have learned from my GIS course, and from my research to develop a comprehensive set of links to geospatial and GIS information. This resource guide will be published on the MiraCosta College Library website. The library website currently hosts subject resources guides covering over thirty subject areas. The resource guide will be posted and easily accessible to the entire MCC community from the MCC Library’s [Subject Guides](http://library.miracosta.edu) page. The resource guide will include, but will not be limited to, links for:

- Downloadable data and information such as US Census data
- San Diego-specific data sources such as SANDAG
- ArcGIS, ESRI and other geospatial and GIS software sources
- Google Earth and other online geospatial services
- Instructional handouts for using downloaded data
- Assistance in the library and open computer lab

The outcome of this endeavor will be a comprehensive and user-friendly web guide to GIS and geospatial information resources and services available online and through the MiraCosta College Library.

c. Documentation and estimation of time spent on my activity:
The resource guide will be posted and accessible through the library website. I will document the hours spent developing the resource guide on a timesheet. My estimate for hours spent on this objective is 110.

**Total Estimate of Hours for all objectives will equal 576 hours or greater**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Hours</th>
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<tbody>
<tr>
<td>1. Undergraduate GIS Course</td>
<td>192</td>
</tr>
<tr>
<td>2. Literature Review/Best Practices</td>
<td>275</td>
</tr>
<tr>
<td>3. Web Resource Guide</td>
<td>110</td>
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**IV. Explanation of Contribution to District**

A. Explanation of how my activities will contribute to my professional development:

This sabbatical study and associated projects will provide me the opportunity for further professional development as an academic librarian. In my role as the Emerging Technologies Librarian at MiraCosta College, I deploy new technologies to better meet the research needs of
MiraCosta College students. My undergraduate degree in geography gives me a solid foundation in geographic concepts. An introductory course in GIS will enable me to gain skills in the emerging area of geospatial information and its corresponding technologies such as GIS. My comprehensive review of academic literature and subsequent library visits will provide me with a detailed picture of the extent of, and types of, GIS-related resources and services offered by academic libraries. My new understanding of the role of academic librarians in supporting GIS will guide me in implementing and supporting this emerging technology at the MiraCosta College Library.

B. Anticipated impact (if any) of my project(s) on:

**Students:** In addition to creating a web-based resource guide for the library as part of my sabbatical, the coursework taken and the expertise gained will enable me to provide assistance to students working with geospatial information. One of the most important roles for academic librarians is in helping students solve problems using research. Through working one-on-one with students, providing research workshops, and producing web-based instructional materials, I will provide broad support for students wishing to visually present geospatial information.

**Department:** As Emerging Technologies Librarian, I provide leadership for the library department in adapting new technologies to better meet the information needs of the MCC community. My sabbatical project will allow me to serve as the department specialist for GIS and geospatial data. I will share my experience and expertise with both full-time and associate librarians through one or more A flex workshops. I expect this type of training to be ongoing, and intend to provide continuing support and education for MCC librarians as the services evolve. The web guide I create will also serve as a resource for my colleagues.

**College:** As our world becomes more visual, students, faculty, and staff will seek out new ways to present information in a more intuitive and readable format. The MCC Library serves as an information hub for the entire college community and maintains an interdisciplinary and collaborative approach that provides relevant information to all of its users, regardless of their academic discipline. Strategically, it does make sense to have a GIS resource person in the library who understands geospatial research needs across the disciplines. At the end of my sabbatical, I plan to share my experience and expertise with MCC faculty through one or more flex workshops. I will also serve as a resource for faculty who wish to find relevant geospatial information for use in their classes or other projects. The current MCC Comprehensive Master Plan states that one of the District’s institutional goals is to become a vanguard educational institution committed to innovation and researched best practices. I believe the knowledge and expertise I gain from this sabbatical will contribute to the achievement of that institutional goal.

**Community:** The web-based guide to geospatial information and GIS I plan to create may prove useful to the greater MCC community who seek local data from organizations such as SANDAG or MCC service area cities. The librarians provide research assistance to everyone, whether the pursuit is academic or personal. Community members are our second largest user group after students. I would be pleased to work with community members on GIS-related questions to the extent of my knowledge and skills.