

**CALIFORNIA STATE UNIVERSITY SAN MARCOS**  
**NEW PROGRAM PROPOSAL – P Form Signature Pages**

For Curriculum and Scheduling Office Use Only		
D.B.	Catalog	File

COLLEGE/SCHOOL  CHABSS  CoBA  CoE  SoN

Discipline GEOG

**TITLE OF PROGRAM** Minor in Geospatial Studies

This form is the signature sheet for new programs and new options/concentrations/tracks within existing programs. For all changes to existing programs (other than addition of new options/concentrations/tracks), use the Form P-2.

- Check one:  New Undergraduate Major or New Graduate Degree      Attach a completed New Program Proposal Template
- New Option/Concentration/Track      }      Attach a completed New Option/Concentration/ Track, Minor, or Teaching Credential Proposal Template
- X New Minor      }
- New Teaching Credential
- New Certificate      Attach a completed New Certificate Proposal Template

Does this proposal impact other disciplines?  Yes  No  
 If yes, obtain signature(s). Any objections or concerns should be stated in writing and attached to this form. Please check the box to indicate whether a memo has been attached.

<b>BIOL</b> Discipline #1	<input checked="" type="checkbox"/> Support	<input type="checkbox"/> Oppose	<input checked="" type="checkbox"/> Memo attached
_____	12/1/11		
Signature	Date		

<b>SOC</b> Discipline #2	<input checked="" type="checkbox"/> Support	<input type="checkbox"/> Oppose	<input checked="" type="checkbox"/> Memo attached
_____	11/18/11		
Signature	Date		

<b>HIST</b> Discipline #3	<input checked="" type="checkbox"/> Support	<input type="checkbox"/> Oppose	<input checked="" type="checkbox"/> Memo attached
_____	11/17/11		
Signature	Date		

<b>ANTH</b> Discipline #4	<input checked="" type="checkbox"/> Support	<input type="checkbox"/> Oppose	<input checked="" type="checkbox"/> Memo attached
_____	11/21/11		
Signature	Date		

<b>ENVS</b> Discipline #5	<input checked="" type="checkbox"/> Support	<input type="checkbox"/> Oppose	<input checked="" type="checkbox"/> Memo attached
_____	11/17/11		
Signature	Date		

<b>PHYS</b> Discipline #5	<input checked="" type="checkbox"/> Support	<input type="checkbox"/> Oppose	<input checked="" type="checkbox"/> Memo attached
_____	12/9/11		
Signature	Date		

CALIFORNIA STATE UNIVERSITY SAN MARCOS

P-FORM PREPARATION

1a. Kim Knowles-Jarey '3/31/12
Originator (Please print) Date

1b. Librarian Liaison for Library Report+ Date
1c. IITS Liaison for IITS Report+ Date

PROGRAM/DEPARTMENT-LEVEL REVIEW

2. Program/Department - Director/Chair\* 11/16/11 (see electronic sig.)
Date

COLLEGE/SCHOOL-LEVEL REVIEW

3. Nicoleta Bateman 3-1-12
College/School Curriculum Committee\* Date

REVIEW (Signatures must be obtained by proposer)

4a. Vice President for Student Affairs\* Date
4b. Dean of Library\* Date
4c. Dean of Information and Instructional Technology Services\* 12-14-11 Date
4d. Vice President for Finance and Administrative Services\* Date
4e. Dean of Graduate Studies (if applicable) \* Date

COLLEGE/SCHOOL-LEVEL RECOMMENDATION

5. College/School Dean/Director\* 3-7-12
Date

UNIVERSITY-LEVEL REVIEW

(May not begin until all signatures numbered 1-5 have been obtained.)

6a. University Curriculum Committee^ Date
6b. Budget and Long-Range Planning Committee^ Date

FACULTY APPROVAL

7. Academic Senate Date

UNIVERSITY-LEVEL APPROVAL

8. Provost Date

9. Date to Chancellor's Office

+ Please contact the liaisons at the beginning of the process and allow sufficient time for the liaisons to prepare the resource implication report. Upon completion of the report liaisons will sign.

\* May attach a memo on program impact on the unit and the ability of the unit to support it.

**CALIFORNIA STATE UNIVERSITY SAN MARCOS**

**P-FORM PREPARATION**

1a. \_\_\_\_\_ Date  
Originator (Please print)

1b.     *B. Bruce*         1/20/11      
Librarian Liaison for Library Report\* Date

1c. \_\_\_\_\_ Date  
IITS Liaison for IITS Report\*

**PROGRAM/DEPARTMENT-LEVEL REVIEW**

2. \_\_\_\_\_ Date  
Program/Department - Director/Chair\*

**COLLEGE/SCHOOL-LEVEL REVIEW**

3. \_\_\_\_\_ Date  
College/School Curriculum Committee\*

**REVIEW (Signatures must be obtained by proposer)**

4a. \_\_\_\_\_ Date  
Vice President for Student Affairs\*

4b. \_\_\_\_\_ Date  
Dean of Library\*

4c. \_\_\_\_\_ Date  
Dean of Information and Instructional  
Technology Services\*

4d. \_\_\_\_\_ Date  
Vice President for Finance and Administrative  
Services\*

4e. \_\_\_\_\_ Date  
Dean of Graduate Studies (if applicable) \*

**COLLEGE/SCHOOL-LEVEL RECOMMENDATION**

5. \_\_\_\_\_ Date  
College/School Dean/Director\*

**UNIVERSITY-LEVEL REVIEW**  
(May not begin until all signatures numbered 1-5 have been obtained.)

6a. \_\_\_\_\_ Date  
University Curriculum Committee^

6b. \_\_\_\_\_ Date  
Budget and Long-Range Planning Committee^

**FACULTY APPROVAL**

7. \_\_\_\_\_ Date  
Academic Senate

**UNIVERSITY-LEVEL APPROVAL**

8. \_\_\_\_\_ Date  
Provost

9. \_\_\_\_\_  
Date to Chancellor's Office

+ Please contact the liaisons at the beginning of the process and allow sufficient time for the liaisons to prepare the resource implication report. Upon completion of the report liaisons will sign.  
\* May attach a memo on program impact on the unit and the ability of the unit to support it.  
^ Attach a memo summarizing the curricular and/or resource deliberations.

**CALIFORNIA STATE UNIVERSITY SAN MARCOS**

**P-FORM PREPARATION**

- 1a. \_\_\_\_\_ Date  
Originator (Please print)
- 1b. \_\_\_\_\_ Date  
Librarian Liaison for Library Report<sup>+</sup>
- 1c. \_\_\_\_\_ Date  
IITS Liaison for IITS Report<sup>+</sup>

**PROGRAM/DEPARTMENT-LEVEL REVIEW**

- 2. \_\_\_\_\_ Date  
Program/Department - Director/Chair\*

**COLLEGE/SCHOOL-LEVEL REVIEW**

- 3. \_\_\_\_\_ Date  
College/School Curriculum Committee\*

**REVIEW (Signatures must be obtained by proposer)**

- 4a. Clacie St... 1/27/12 \_\_\_\_\_ Date  
Vice President for Student Affairs\*<sup>o</sup>
- 4b. \_\_\_\_\_ Date  
Dean of Library\*
- 4c. \_\_\_\_\_ Date  
Dean of Information and Instructional Technology Services\*
- 4d. \_\_\_\_\_ Date  
Vice President for Finance and Administrative Services\*
- 4e. \_\_\_\_\_ Date  
Dean of Graduate Studies (if applicable) \*

**COLLEGE/SCHOOL-LEVEL RECOMMENDATION**

- 5. \_\_\_\_\_ Date  
College/School Dean/Director\*

**UNIVERSITY-LEVEL REVIEW**

*(May not begin until all signatures numbered 1-5 have been obtained.)*

- 6a. \_\_\_\_\_ Date  
University Curriculum Committee<sup>^</sup>
- 6b. \_\_\_\_\_ Date  
Budget and Long-Range Planning Committee<sup>^</sup>

**FACULTY APPROVAL**

- 7. \_\_\_\_\_ Date  
Academic Senate

**UNIVERSITY-LEVEL APPROVAL**

- 8. \_\_\_\_\_ Date  
Provost
- 9. \_\_\_\_\_  
Date to Chancellor's Office

+ Please contact the liaisons at the beginning of the process and allow sufficient time for the liaisons to prepare the resource implication report. Upon completion of the report liaisons will sign.

\* May attach a memo on program impact on the unit and the ability of the unit to support it.



California State University  
**SAN MARCOS**


IITS California State University San Marcos 333 S. Twin Oaks Valley Road San Marcos, CA 92096-0001  
Tel: 760.750.4775 Fax: 760.750.3257 veres@csusm.edu www.csusm.edu/IITS

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## MEMORANDUM

**DATE:** December 14, 2011

**To:** Dr. Kimberly Knowles-Yanez  
Professor of Urban and Regional Planning,  
Budget and Long Range Planning Committee

**From:** Wayne Veres   
Dean, Instructional and Information Technology Services and Chief Information Officer

**Subject:** IITS Comments on the Minor in Geospatial Studies Proposal

Thank you for the opportunity to provide additional comments about the program proposal for the Minor in Geospatial Studies proposal. We have reviewed the technology needs for this program and met with to gather more information.

The assignment of Allen Risley to support the GIS lab in the Social Behavioral Sciences Building will help to facilitate the use of GIS technologies. We encourage you to set up a series of planning meetings with him to ensure that GIS resources (both technology and personnel) are adequate to meet the growing demand. Additionally, we shall work to develop a list of support resources available to students and instructors in order to facilitate use of the GIS lab and resources.

We understand that this credential incorporates existing courses which use GIS, and require the development of three new courses. To effectively support any proposal which includes new courses and new faculty, we have developed the following guidelines.

- Any new course must comply with the CSU Accessible Technology Initiative (ATI) guidelines for instructional materials: "New courses and new course content, including instructional materials and instructional websites, will be designed and authored in a manner that incorporates accessibility." An instructional developer will meet with the faculty member designing the new course to review specific accessibility guidelines and ensure that the course content is in compliance with the ATI. Typical issues include captioning multimedia, adding image tags to PowerPoint, and naming links appropriately and would require 3 hours of instructional development time.
- Resources for course development can be found in MERLOT (Multimedia Educational Resource for Learning and Online Teaching). MERLOT is a leading edge, user-centered, searchable collection of peer reviewed, higher education, online learning materials, catalogued by

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The California State University

Bakersfield | Channel Islands | Chico | Dominguez Hills | East Bay | Fresno | Fullerton | Humboldt | Long Beach | Los Angeles | Maritime Academy  
Monterey Bay | Northridge | Pomona | Sacramento | San Bernardino | San Diego | San Francisco | San Jose | San Luis Obispo | San Marcos | Sonoma | Stanislaus

registered members and a set of faculty development support services. MERLOT's vision is to be a premiere online community where faculty, staff, and students from around the world share their learning materials and pedagogy.

- It has been our experience that new courses with typical technology resources take 3 to 5 hours of instructional development support and more technology-intensive courses (especially fully online courses) may take 20 hours or more of support.
- New faculty members are usually not familiar with our Learning Management System (LMS) or the multimedia options we offer. Therefore they are encouraged to attend workshops or request an orientation to Academic Technology Services resources that support teaching.
- Online courses are labor-intensive to develop and it is recommended that similar online offerings in the CSU be identified and course sharing with other campuses be considered.
- Multimedia resources including the video studios, Mediasite studio, and videoconferencing rooms are only supported from 8 am to 5 pm on Monday through Friday. For programs with support needs outside this schedule, funds need to be identified for additional support.
- Sixty-six percent of faculty and sixty-seven percent of courses use the Learning Management System. Instructional support for implementation for a new faculty member with a new course ranges from 1 hour to 20 plus hours depending on the interactive content, media integration and whether the course is Web-facilitated, hybrid or fully online.
- Courses being taught at the Temecula site require increased support from IITS. Additionally, courses which are taught outside of the established academic calendar may require additional coordination and/or effort in order to provide resources to students and instructors. IITS should be notified of these kinds of conditions as early as possible.

cc: Teresa Macklin



California State University  
**SAN MARCOS**


Library California State University San Marcos 333 S. Twin Oaks Valley Road San Marcos, CA 92096-0001

Melanie Chu Tel: 760.750.4378 Fax: 760.750.3319 mchu@csusm.edu library.csusm.edu

January 18, 2012

TO: Kimberley Knowles-Yáñez, Liberal Studies

CC: Barbara Preece, Dean, Library

FROM: Melanie Chu, Library 

RE: Minor in Geospatial Studies Proposal

Thank you for the opportunity to review the proposal for a new minor in Geospatial Studies.

Since this minor will build primarily upon aggregate courses from Geography, Liberal Studies, Biology, and other areas, existing Library materials (e.g. books, journals, media), research assistance, and instruction support this proposal. This program will also utilize existing Geographic Information Systems (GIS) resources on campus including the new GIS Teaching Lab and Map Room.

It is worth reiterating the following factors mentioned in the Library's impact statement for the Border Regional Studies minor (memo dated February 8, 2010):

- Library material costs, particularly electronic journal subscriptions, increase annually.
- New materials can be acquired only if acquisition funds, including inflation, are made available.
- Each new program increases workload for all of the Library's units (e.g. additional interlibrary loans to process).

As Library liaison for Liberal Studies, I will work with our Natural Sciences Librarian (liaison for Biology) and departmental faculty to determine what materials are acquired to support student research Geospatial Studies, as well as what subscriptions, if any, need to be cancelled given budget constraints. We may also consider collaborating with Palomar College Library as appropriate when relevant course credit is transferrable.

I am happy to offer library instruction for any Geospatial minor courses with research assignments; "information literacy" sessions address students' abilities to identify, find, evaluate, and cite research appropriate for that specific course. Additionally, I will continue to provide in-depth, individualized research consultation to BRS, Anthropology, Geography, Liberal Studies, and Interdisciplinary (ID) students.

As Geospatial Studies grows and as curriculum is added or changed, I appreciate the opportunity to participate to ensure the Library's continued support of student learning and research.

CALIFORNIA STATE UNIVERSITY  
SAN MARCOS

**Procedure for Submitting Proposals for New Options, Concentrations, Special Emphases and Minors**

- 1. Name of the campus submitting the request, the full and exact title of the proposed aggregate of courses, and whether it is an option, concentration, special emphasis, or minor.**

California State University San Marcos  
Minor in Geospatial Studies

- 2. Full and exact title of the degree major program under which the aggregate of courses will be offered, where applicable.**

NA. This will be a stand-alone minor.

- 3. Options, concentrations, or special emphases already existing under the degree major program for which the new aggregate of courses is proposed.**

NA

- 4. Department(s) to offer the aggregate courses.**

Anthropology  
Biology  
History  
Liberal Studies  
Physics  
Sociology  
(Environmental Studies- not yet a department or program)

- 5. Purpose of the proposed aggregate of courses.**

Geospatial analysis is used across many academic disciplines, including geography, urban and regional planning, linguistics, history, biology, sociology, and anthropology. The Geospatial Studies minor will allow students of any major to supplement their skill set with Geographic Information Systems (GIS) based technology, data analysis, image analysis, and mapping. Coursework will include the use of a variety of geospatial software, including, but not limited to ArcGIS, ArcExplorer, ArcGIS Online Explorer and Google Earth. Tools used in coursework will include GPS technologies, notably Trimble GPS hand held units. This series of classes is designed to take advantage of LD offerings at Palomar Community College, which we are unable to offer at CSUSM, leveraged with CSUSM Upper Division offerings. Palomar College has a strong and growing GIS program which includes a Certificate of Proficiency and an A.A. Degree. Students seeking to build on their Geospatial skills from Palomar will find some of their LD



credits articulated with the Minor in Geospatial Studies at CSUSM. The purpose of the minor is to apply the GIS skills learned in the Palomar classes across academic disciplines at CSUSM. The purpose of the Minor is not to develop a higher level of technical skills, per se, but rather a higher order of understanding re how geospatial problem-solving skills can be applied to disciplinary inquiry.

**6. Need for the proposed aggregate of courses.**

Among current degree offerings, none provide students with expertise in geospatial studies, which includes skills in GPS and GIS-based mapping, methodology, image and data analysis, and related geospatial thinking and problem-solving technology. The ability to use GIS is a valued workplace skill for many jobs in government, the private sector, academia, and consulting. This minor provides students with the opportunity to develop their expertise while working toward degree completion. Combined with any of the undergraduate majors at CSUSM it adds a marketable set of skills and knowledge not provided by any other CSUSM curricular program.

**7. List of the courses, by catalog number, title, and units of credit, as well as total units to be required under the proposed aggregate of courses.**

		<u>Units</u>
<u>Introduction to GIS, LD Prep (3-4 units), choose one:</u>		
ENVS 210	Research Methods: Introduction to GIS	3
GEOG 130*	Introduction to GIS and GIS Software	4
 <u>Geospatial Technical Skills, LD Prep Required Courses (6 units):</u>		
GEOG 232*	GIS Database Management and Data Acquisition	4
GEOG 236*	Intermediate ArcGIS: GIS Analysis	2
 <u>Applied GIS, Required UD Core Classes (6 units):</u>		
GEOG 330	GIS Explorations across the Curriculum	3
<u>OR</u>		
ID 370-7	Applied GIS for the Social Sciences	3
 <u>OR</u>		
GEOG 491	Geospatial Analysis Internship	3
<u>OR</u>		
GEOG 691	Graduate Internship in Geospatial Studies	3
 <u>Courses with Geospatial Components, 6-7 UD units</u>		
BIOL 533	GIS Applications in Landscape Ecology	4
GEOG 320	Patterns of San Diego County	3
HIST 3XX	History and GIS (under development in HIST dept.)	3
PHYS 402	Computer Interfacing and Control	4
PHYS 403	Signals and Systems Processing	3
<i>See advisor for more approved courses.^</i>		
Total Units:		21-23

\* These courses are not offered at CSUSM; they are offered at Palomar.

^Courses which always include a geospatial component are listed and will always be accepted for the minor. However, this list will be amplified as more CSUSM faculty integrates GIS into their discipline-specific courses. Inclusion of geospatial elements in courses is facilitated by an NSF grant which allows us to hold annual GIS workshops for faculty (known as GIS Resources and Instructional Development (GRID) Workshops). The grant allows for significant follow up with faculty as they integrate GIS into their courses. Additionally, IITS hired a GIS instructional developer to work with faculty, and the office is next to the GIS Teaching Lab in SBSB. The following are examples of courses which would be approved as electives for the minor when taught by a GIS trained instructor (who will likely be a GRID graduate), and when they include a significant geospatial component:

ANTH 375	Indigenous Anthropology (in the curriculum review process)	
ANTH 380	Current Archaeology	3
ANTH 390	Anthropological Research Methods	3
ANTH 460	Questioning Cultural Competency	3
ANTH 440	Farmworker Health Ethnography	3
ENVS 320	Environmental and Land-Use Design	3
SOC 311	Inequality	4
SOC 313	Race/Ethnic Relations	4
SOC 325	Criminology	4
SOC 3XX	GIS and Criminology (to be proposed in future)	2

The Geospatial Studies advisor will need to verify course content each semester, at student request, before approving the class for the minor.

8. **List of courses, by catalog number, title, and units of credit as well as total units to be required for the major in which the proposed aggregate of courses is to be included.**

NA; there is no Geospatial Studies major.

9. **New courses to be developed. Include proposed catalog descriptions.**

**a. New courses being developed for transfer credit:**

After receiving approval for the Minor, the following courses will articulate with Palomar College courses (see email at end of this document from CSUSM Articulation Officer, Patti Garnet):

<b>GEOG 130</b>	<b>for Palomar GEOG 120</b>
<b>GEOG 232</b>	<b>for Palomar GEOG 132</b>
<b>GEOG 236</b>	<b>for Palomar GEOG 136</b>

*GEOG 130 Introduction to GIS and GIS Software* 4

An introduction to the mapping sciences with a primary focus on Geographic Information Systems (GIS). Covers the trends, history, structure, application,

hardware and software, and basic operations of GIS. Related technologies to be examined include mapping, aerial and satellite imagery, and Global Positioning Systems (GPS). The lab portion provides training in the use of ArcGIS software including identifying, evaluating, and inputting spatial data, developing and using raster and vector data, converting data, and applying programming with GIS software. *This course is not currently offered at Cal State San Marcos. It is listed only for transfer credit and course equivalency purposes.*

*GEOG 232 GIS Database Management and Data Acquisition 4*

Provides students with knowledge and practical experience in the fundamentals of database management, and the acquisition, conversion, and creation of spatial data within Geographic Information Systems (GIS). Topics include strategic design, querying, modeling techniques, data appropriateness and accuracy, hardware and software requirements, conversion of digital data, creating digital data using digitizers, scanners and Global Positioning Systems (GPS), and utilization of remote sensing, photogrammetry, and web-based data. This course provides hands-on experience with database management and data acquisition using ArcGIS software. *This course is not currently offered at Cal State San Marcos. It is listed only for transfer credit and course equivalency purposes.*

*GEOG 236 Intermediate ArcGIS: GIS Analysis 2*

Focus on performing complex operations using ArcGIS software. Students will gain hands-on experience in advanced querying operations, Spatial Analyst and Network Analyst, coordinate geometry, ArcGIS ModelBuilder, and the application of ArcGIS in a variety of disciplines. *This course is not currently offered at Cal State San Marcos. It is listed only for transfer credit and course equivalency purposes.*

**b. New Courses to be developed at CSUSM for the Minor:**

*GEOG 330 GIS Explorations across the Curriculum 3*

Students learn state-of-the-art GIS skills through problem-based learning. Through real world examples taken from across the curriculum, students develop advanced knowledge of current data sources and digital tools while honing spatial analysis and map-making skills. *Cannot be taken for credit if student has taken ID 370-7 Applied GIS for the Social Sciences.*

*GEOG 491 Geospatial Internship 3*

Career-related program of study, research, and work in connection with a government agency or private group concerned with Geospatial Analysis. All participants utilize learning agreements. A final written report is required. Students will be supervised both on site and by the course instructor.

*GEOG 691 Graduate Internship in Geospatial Studies* 3  
Graduate level career-related program of study, research, and work in connection with a government agency or private group concerned with Geospatial Analysis. All participants utilize learning agreements. A final written report is required. Students will be supervised both on site and by the course instructor.

*HIST 3XX History and GIS* 3  
Currently under development in the HIST department.

**10. List of all present faculty members, with rank, appointment status, highest degree earned, date and field of highest degree, and professional experience, who would teach in the proposed aggregate of courses.**

Matthew Atherton  
Assistant Professor of Sociology  
Ph.D. Crime, Law and Justice (The Pennsylvania State University 2005)  
Faculty member at CSUSM since 2007

Bonnie Bade  
Professor of Medical Anthropology  
Ph.D. Anthropology (UC Riverside 1994)  
Faculty member at CSUSM since 1994

Jeff Charles  
Associate Professor of History  
Ph.D. History (Johns Hopkins University 1987)  
Faculty member at CSUSM since 1995

Kim Knowles-Yáñez  
Professor of Liberal Studies  
Ph.D. Urban and Regional Planning (University of IL- Urbana-Champaign, 1997)  
Faculty member at CSUSM since 1999

William Kristan  
Associate Professor of Biology  
Ph.D. Biology (UC Riverside 2001)  
Faculty member at CSUSM in TT since 2006 (and as a lecturer since 2003)

Konane Martinez  
Assistant Professor of Anthropology  
Ph.D. Anthropology (UC Riverside, 2005)  
Faculty member at CSUSM since 2007

Laurette McGuire  
Assistant Professor of Anthropology

Ph.D. Anthropology (UC Riverside, 2012)  
Faculty member at CSUSM since 2011

Edward Price

Associate Professor of Physics  
Ph.D. Physics (UCSD, 2001)  
Faculty member at CSUSM since 200?)

Theresa Suarez

Assistant Professor of Sociology  
Ph.D. Ethnic Studies (UC San Diego, 2008)  
Faculty member at CSUSM since 2008

**11. Additional instructional resources (faculty, space, equipment, library volumes, etc.) needed to implement and sustain the proposed aggregate of courses. List all resources needed for the first five years beyond those currently projected, including specific resource, cost, and source of funding.**

We currently have the following key resources on campus:

- ESRI GIS and Business Analyst software, renewed on an annual basis by IITS, \$4,500
- Other GIS software available as shareware on-line (i.e. Google Earth, ArcGIS Online, ArcGIS Explorer Online, GRASS GIS, QGis)
- IITS positions in GIS instructional support (Allen Risley, plus a student assistant TBD)
- GIS Technician Office next to the GIS Teaching Lab in SBSB
- GIS Teaching Lab Classroom in SBSB 1108
- GIS Map Room in SBSB, also next to the GIS Teaching Lab, with a plotter, printer, scanner, map drawers, and light table
- 30 Juno series Trimble hand-held GPS units and software for student check-out

**12. Proposed catalog description.**

**MINOR IN GEOSPATIAL STUDIES**

**Office:**

Liberal Studies Department  
4222 Social and Behavioral Science Building

**Telephone:**

**(760) 750-4104**

**Program Coordinator:**

Kim Knowles-Yáñez

**Faculty:***Anthropology:*

Bonnie Bade  
Konane Martinez  
Laurette McGuire

*Biology:*

William Kristan

*History:*

Jeff Charles

*Liberal Studies:*

Kim Knowles-Yáñez

*Physics:*

Edward Price

*Sociology:*

Matthew Atherton  
Teresa Suarez

**Program Offered:**

- Minor in Geospatial Studies

Geospatial Studies includes use of Geographic Information Systems (GIS), Global Positioning Systems (GPS), and imaging and remote sensed software for analyzing and mapping spatial data. These techniques can be applied to problem-solving across many disciplines in the social and natural sciences, including planning, history, sociology, border studies, anthropology, geography and biology. The purpose of the minor is to allow students majoring in any field to supplement their disciplinary skills with in-depth skills in analyzing and mapping spatial and image data.

**Special Conditions for the Geospatial Studies Minor:**

Collaboration with Palomar Community College has influenced the development of the Geospatial Studies Minor. With the exception of ENV5 210, which is planned but not yet offered at CSUSM, none of the LD courses will be offered at CSUSM and all are designed to articulate with specific Palomar courses:

GEOG 130 for Palomar GEOG 120

GEOG 232 for Palomar GEOG 132

GEOG 236 for Palomar GEOG 136

Other articulations and equivalents will be considered at student request.

**Requirements:**

Completion of 21-23 units of credit, 12-13 of which must be at the upper-division level. Coursework applied to the minor may also be used to fulfill General Education requirements. Each course counted toward the minor must be completed with a grade of C (2.0) or better.

	<b>Units</b>
<u>Introduction to GIS, LD Prep (3-4 units), choose one:</u>	
ENVS 210    Research Methods: Introduction to GIS	3
GEOG 130    Introduction to GIS and GIS Software	4
<u>Geospatial Technical Skills, LD Prep Required Courses (6 units):</u>	
GEOG 232#    GIS Database Management and Data Acquisition	4
GEOG 236^    Intermediate ArcGIS: GIS Analysis	2
<u>Applied GIS, Required UD Core Classes (6 units):</u>	
GEOG 330    GIS Explorations across the Curriculum	3
<u>OR</u>	
ID 370-7    Applied GIS for the Social Sciences	3
GEOG 491    Geospatial Internship	3
<u>OR</u>	
GEOG 691    Graduate Internship in Geospatial Studies	3
<u>Courses with Geospatial Components, 6-7 UD units:</u>	
BIOL 533+    GIS Applications in Landscape Ecology	4
GEOG 320    Patterns of San Diego County	3
HIST 3XX    History and GIS (under development in HIST dept.)	3
PHYS 402*    Computer Interfacing and Control	4
PHYS 403    Signals and Systems Processing	3

*See advisor for more approved courses.*

# prerequisite: A minimum grade of "C" in GEOG 120 at Palomar Community College, or concurrent enrollment in GEOG 120 at Palomar Community College or the equivalent

^ prerequisite: A minimum grade of "C" in GEOG 120 at Palomar Community College or the equivalent

+prerequisite: BIOL 354

\*prerequisite: PHYS 301

*Total Units*

*21-23*

**Theresa Aitchison**

*Chair Signature - P Form*

**From:** Vivienne Bennett  
**Sent:** Wednesday, November 16, 2011 10:44 AM  
**To:** Kimberley Knowles-Yanez  
**Subject:** Re: the Minor

Here is my electronic signature for the P Form for the Geospatial Studies Minor.  
Vivienne

---

Vivienne Bennett, Ph.D.  
Professor and Chair, Liberal Studies Department

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**From:** Kimberley Knowles-Yanez <[kyanez@csusm.edu](mailto:kyanez@csusm.edu)>  
**Date:** Wed, 16 Nov 2011 10:24:21 -0800  
**To:** Vivienne Bennett <[vbennett@csusm.edu](mailto:vbennett@csusm.edu)>  
**Subject:** the Minor

Hi Viv-

Here is the newly edited Geospatial Studies Minor. I fixed the course description for GEOG 330, Methods in Geographic Information Systems (GIS) and made the other edits you and Nicoleta suggested. As soon as you email me back with your signature proxy I will forward to the chairs involved. Thank you!! Kim

Dr. Kim Knowles-Yáñez  
Professor of Urban and Regional Planning, Liberal Studies Department  
<http://www.csusm.edu/liberalstudies/>  
Cal State San Marcos  
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**Kimberley Knowles-Yanez**

*Vourlitas/Biology*

**From:** George Vourlitis  
**Sent:** Thursday, December 01, 2011 1:37 PM  
**To:** Kimberley Knowles-Yanez; Tracey Brown  
**Cc:** William Kristan  
**Subject:** RE: Geospatial Studies Minor P form

Hi Kim, You have Biology's blessing. Good luck!

---

George L Vourlitis  
Professor and Chair,  
Department of Biological Sciences  
Science Hall 1- Room 320  
California State University  
San Marcos, CA 92096, USA  
Phone: 760-750-4119  
Fax: 760-750-3440  
<http://www.csusm.edu/biology>  
<http://www.csusm.edu/terl>

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**From:** Kimberley Knowles-Yanez  
**Sent:** Thursday, December 01, 2011 12:16 PM  
**To:** Tracey Brown; George Vourlitis  
**Cc:** William Kristan  
**Subject:** RE: Geospatial Studies Minor P form

Great, great. Thank you all for your support! Kim

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**From:** Tracey Brown  
**Sent:** Thursday, December 01, 2011 10:56 AM  
**To:** George Vourlitis; Kimberley Knowles-Yanez  
**Cc:** William Kristan  
**Subject:** RE: Geospatial Studies Minor P form

Hi -

I think Bill did a good job of vetting this from our end. The two courses I am going to introduce GIS labs into (ecology and human impact) will only have one or two days on it so I don't think should be included for the minor as of yet. I do already have a few ideas for internships though!

TKB

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**From:** George Vourlitis  
**Sent:** Wednesday, November 30, 2011 10:48 AM  
**To:** Kimberley Knowles-Yanez  
**Cc:** William Kristan; Tracey Brown  
**Subject:** RE: Geospatial Studies Minor P form

If my GIS colleagues are cool with this than so am I. I saw Bill's response was positive. Tracey?

**Kimberley Knowles-Yanez**

*Shaw / Sociology*

**From:** Linda Shaw  
**Sent:** Friday, November 18, 2011 8:25 AM  
**To:** Kimberley Knowles-Yanez  
**Subject:** Re: Geospatial Studies Minor

Hi Kim,

This looks good to me. Good luck with it!

Linda

Linda L. Shaw  
Professor and Chair  
Department of Sociology  
CSU San Marcos  
San Marcos, CA 92096

E-mail: [lshaw@csusm.edu](mailto:lshaw@csusm.edu)  
Phone: 760-750-8026

Sent from my iPad

On Nov 16, 2011, at 2:37 PM, "Kimberley Knowles-Yanez" <[kyanez@csusm.edu](mailto:kyanez@csusm.edu)> wrote:

Oops, forgot the all important attachment!

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**From:** Kimberley Knowles-Yanez  
**Sent:** Wednesday, November 16, 2011 2:36 PM  
**To:** Linda Shaw  
**Cc:** Theresa Suarez; Matthew Atherton  
**Subject:** Geospatial Studies Minor

Hi Linda-

I have put together a proposal for an interdisciplinary Geospatial Studies Minor. Some of the possible electives for the minor are SOC classes. Can you please look this proposal over? I have only included the P form, but please let me know if you would like to see any of the C forms, syllabi, or the UEDGE DD form noted. The proposal has been thoroughly vetted by my department, but I have barely consulted all of the departments involved; I am just starting this process now, so I am very open to changes if you have any suggestions. I have not yet shown this proposal to Theresa, so she may yet still object to my listing her as faculty for the Minor. (Theresa, can you please let me know if this is alright?) I am also cc'ing Matt here since he is developing GIS components for his courses and may want to add to the list of electives herein (and perhaps be listed as faculty?).

Since SOC is featured in the P form, it will be required to get your signature for the P signature form. I am collecting electronic signatures, and your choices are "Support," "Oppose," and "Memo Attached." Please let me know if you have any comments, questions, etc.... Thank you for considering this proposal, Kim

**Kimberley Knowles-Yanez**

*Arnade / History*

**From:** Peter Arnade  
**Sent:** Thursday, November 17, 2011 9:46 PM  
**To:** Kimberley Knowles-Yanez  
**Subject:** Re: Geospatial Studies Minor P form

Hi Kim. It looks fabulous! As you can guess, this is really more Jeff's expertise than mine, but certainly history, as a whole, will be very supportive. Thanks again. I support this new ID minor, and congratulate you on putting together such a fine proposal.

Peter Arnade  
Professor of History  
Chair, Department of History  
CSU San Marcos

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**From:** Kimberley Knowles-Yanez <[kyanez@csusm.edu](mailto:kyanez@csusm.edu)>  
**Date:** Wed, 16 Nov 2011 14:40:04 -0800  
**To:** Peter Arnade <[parnade@csusm.edu](mailto:parnade@csusm.edu)>  
**Cc:** Jeffrey Charles <[jcharles@csusm.edu](mailto:jcharles@csusm.edu)>  
**Subject:** Geospatial Studies Minor P form

Hi Peter-

I have put together a proposal for an interdisciplinary Geospatial Studies Minor. One of the electives for the minor will be Jeff's in-development History and GIS course. Can you please look this proposal over? I have only included the P form, but please let me know if you would like to see any of the C forms, syllabi, or the UUDGE DD form noted. The proposal has been thoroughly vetted by my department, but I have barely consulted all of the departments involved; I am just starting this process now, so I am very open to changes if you have any suggestions. I have not yet shown this proposal to Jeff, so he may not yet know that I would like to list him as faculty for the Minor. (Jeff, can you please let me know if this is alright?)

Since HIST is featured in the P form, it will be required to get your signature for the P signature form. I am collecting electronic signatures, and your choices are "Support," "Oppose," and "Memo Attached." Please let me know if you have any comments, questions, etc.... Thank you for considering this proposal, Kim

Dr. Kim Knowles-Yánez  
Professor of Urban and Regional Planning, Liberal Studies Department  
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**Kimberley Knowles-Yanez**

*Martinez / Anthropology*

**From:** Konane Martinez  
**Sent:** Monday, November 21, 2011 10:16 AM  
**To:** Kimberley Knowles-Yanez  
**Subject:** RE: Geospatial Studies Minor

Anthropology Supports this Minor

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**From:** Kimberley Knowles-Yanez  
**Sent:** Wednesday, November 16, 2011 2:42 PM  
**To:** Konane Martinez  
**Cc:** Bonnie Bade  
**Subject:** FW: Geospatial Studies Minor

Hi Konane-

I have put together a proposal for an interdisciplinary Geospatial Studies Minor. Some of the possible electives for the minor are ANTH classes. Can you please look this proposal over? I have only included the P form, but please let me know if you would like to see any of the C forms, syllabi, or the UEDGE DD form noted. The proposal has been thoroughly vetted by my department, but I have barely consulted all of the departments involved; I am just starting this process now, so I am very open to changes if you have any suggestions. Are you OK with being listed as faculty for the Minor? (Bonnie, do you want to be?)

Since ANTH is featured in the P form, it will be required to get your signature for the P signature form. I am collecting electronic signatures, and your choices are "Support," "Oppose," and "Memo Attached." Please let me know if you have any comments, questions, etc.... Thank you for considering this proposal, Kim

Dr. Kim Knowles-Yánez

Professor of Urban and Regional Planning, Liberal Studies Department

<http://www.csusm.edu/liberalstudies/>

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**Kimberley Knowles-Yanez**

*Brown / Environmental Studies*

**From:** Robert Brown  
**Sent:** Thursday, November 17, 2011 9:56 AM  
**To:** Kimberley Knowles-Yanez  
**Subject:** Re: Geospatial Studies Minor

Hi Kim,

I strongly support the minor. I have a few comments, most which do not apply directly to the GS minor but rather its relationship with Environmental Studies. You do not need to include these in the P-form; my comments are more in the spirit of strengthening the relationship between ENV5 and GS.

We should consider listing GEOG 330, BIOL 533, and perhaps even GEOG 491 (depending in its nature), as UD electives for the ENV5 degree. This would strengthen ENV5 and probably the GS minor, as well. What do you think? Are these courses appropriate electives for ENV5? I don't know enough about about HIST 3XX, PHYS 402/403, but perhaps these are also appropriate electives for the ENV5.

I would consider "double-counting" the above courses towards both the ENV5 degree and the GS minor -- an ENV5 student counts GEOG 330 or BIOL 533 as an elective towards both the ENV5 major and GS minor. This encourages ENV5 students to minor in GS, an excellent combination for the job market. We need to think more about the specifics, of course. My comment here is aimed at strengthening the pathways between ENV5, GS, and even the GIS work at Palomar — this would be good for ENV5 students.

ENV5 320 (Environmental and Land-Use Design) could be an appropriate elective for the minor in the future, depending on how it is taught. I expect that it could have a GIS component given the likely faculty that we will hire to teach it (assuming we ever hire someone). I don't suggest including this in your P-form, but it is something to think about down the road. (ENV5 320 course description: Building on ENV5 200, this course further develops methods to study human impacts on the environmental landscape associated with land-use planning. Spatial variations and interactions of rural, suburban, and urban landscapes are studied. In addition, land-use planning approaches are examined within legal, administrative, comparative perspectives, and applied research methods. Course examines policies like transportation, open space preservation, housing, economic development, environmental protection, urban design, and public finance.)

Thanks,  
Bob

Robert Brown  
Professor of Economics  
California State University  
San Marcos, CA 92096  
760.750.4196

---

**From:** Kimberley Knowles-Yanez <[kyanez@csusm.edu](mailto:kyanez@csusm.edu)>  
**Date:** Wed, 16 Nov 2011 14:45:13 -0800  
**To:** IITS <[rbrown@csusm.edu](mailto:rbrown@csusm.edu)>  
**Subject:** FW: Geospatial Studies Minor

Hi Bob-

I have put together a proposal for an interdisciplinary Geospatial Studies Minor. One of the required courses for the minor is the LD ENV5 Intro to GIS course.. Can you please look this proposal over? I have only included the P form, but please let me know if you would like to see any of the C forms, syllabi, or the UDGE

**Kimberley Knowles-Yanez**

*Oberem / Physics*

**From:** Graham Oberem  
**Sent:** Friday, December 09, 2011 11:22 AM  
**To:** Kimberley Knowles-Yanez  
**Subject:** Re: latest version of Geospatial Studies Minor

Hi Kim,

Thank you for your phone call, and for sending the updated version of the Geospatial Studies Minor P-Form. I have reviewed the proposal and discussed it with Ed Price. I am happy to support the proposal on behalf of the Physics Department, as Acting Chair.

Best,

Graham

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**From:** Kimberley Knowles-Yanez <[kyanez@csusm.edu](mailto:kyanez@csusm.edu)>  
**Date:** Fri, 9 Dec 2011 11:10:42 -0800  
**To:** Graham Oberem <[oberem@csusm.edu](mailto:oberem@csusm.edu)>  
**Subject:** latest version of Geospatial Studies Minor

Hi Graham- Nice chatting with you. Pls. let me know if you have any feedback on the P form, Kim

Dr. Kim Knowles-Yánez

Professor of Urban and Regional Planning, Liberal Studies Department

<http://www.csusm.edu/liberalstudies/>

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**From:** Patti Garnet  
**Sent:** Friday, September 16, 2011 2:23 PM  
**To:** Kimberley Knowles-Yanez  
**Subject:** RE: New Minor

Hi Kim,

Once the courses have been approved by UCC (?) I can put them ASSIST and articulate them with Palomar's courses (and any other CC that you wish).

Patti

**From:** Kimberley Knowles-Yanez  
**Sent:** Friday, September 16, 2011 2:20 PM  
**To:** Patti Garnet  
**Subject:** RE: New Minor

Hi Patti-

Thank you for getting back to me. I am proposing three new courses for articulation as part of the new Geographic Information Systems (GIS) Minor that I am also proposing.

The three new courses and the Palomar course I would like them to articulate with are:

GEOG 130 for Palomar GEOG 120  
GEOG 232 for Palomar GEOG 132  
GEOG 236 for Palomar GEOG 136

I have looked at these Palomar courses at assist.org and they are listed under "CSU Baccalaureate Level Course List by Department Palomar College." I think this means that they are accepted as transfer credits, right? Is it possible to articulate them with specific CSUSM classes? If so, what process do I need to follow? Thank you, Kim