

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

For Academic Programs Office Use Only  
R.E. \_\_\_\_\_ Catalog \_\_\_\_\_ File \_\_\_\_\_

COLLEGE  CHABSS  CoBA  CoEHHS  CSM

TITLE OF PROGRAM Certificate in Applied GIS (Geographic Information Systems) Discipline LBST

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

Check one:  New Undergraduate Major or New Graduate Degree Attach a completed New Program Template  
 New Option/Concentration/Emphasis/Track } Attach a completed New Option/Concentration/  
 New Minor Special Emphasis, Teaching Credential and Minor  
 New Teaching Credential  
 New Certificate Attach a completed New Certificate 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.

HIST  Support  Oppose  
Discipline #1  
Signature \_\_\_\_\_ Date \_\_\_\_\_  
Please see attached email

GBST  Support  Oppose  
Discipline #2  
Signature Elizabeth Mott Date 10/3/14

Discipline #3  
Support  Oppose  
Signature \_\_\_\_\_ Date \_\_\_\_\_

Discipline #4  
Support  Oppose  
Signature \_\_\_\_\_ Date \_\_\_\_\_

Discipline #5  
Support  Oppose  
Signature \_\_\_\_\_ Date \_\_\_\_\_

**P-FORM PREPARATION**

1a. Laura Makey [Signature] 02/25/2014  
Originator (Please print) Date

1b. [Signature]  
Librarian Liaison for Library Report\*

6-4-14  
Date

1c. [Signature]  
IITS Liaison for IITS Report

5/23/14  
Date

**PROGRAM/DEPARTMENT-LEVEL REVIEW**

2. [Signature] 4/25/14  
Program/Department - Director/Chair\* Date

**COLLEGE/SCHOOL-LEVEL REVIEW**

3. [Signature] 5/6/14  
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\* Date

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

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

**COLLEGE/SCHOOL-LEVEL RECOMMENDATION**

5. [Signature] 10/8/14  
College/School Dean/Director\* 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.

^ Attach a memo summarizing the curricular and/or resource deliberations.

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**Subject:** Re: GIS Certificate  
**Date:** Wednesday, October 8, 2014 5:07:39 PM Pacific Daylight Time  
**From:** Jill Watts  
**To:** Scott Greenwood

Dear Scott,

We are happy to support this certificate.

Best wishes,  
Jill

Jill Watts  
Professor and Chair  
Department of History

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**From:** Scott Greenwood <[sgreenwo@csusm.edu](mailto:sgreenwo@csusm.edu)>  
**Date:** Friday, October 3, 2014 10:38 AM  
**To:** Jill Watts <[jwatts@csusm.edu](mailto:jwatts@csusm.edu)>  
**Subject:** GIS Certificate

Hi Jill,

CAPC reviewed the attached certificate in Geographic Information Systems (GIS) and wanted to get sign offs from both GBST and HIST on this proposed certificate before sending it on to UCC. Could you look the attached packet over and let me know if your department is supportive of this new certificate, or if any members of the HIST department have concerns?

Thank you!

Scott

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**Scott Greenwood**  
Associate Dean, Instruction and Academic Programs  
Associate Professor of Political Science and Global Studies  
College of Humanities, Arts, Behavioral and Social Sciences (CHABSS)  
California State University San Marcos  
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CALIFORNIA STATE UNIVERSITY  
SAN MARCOS  
**Procedure for Submitting Proposals for New Certificates**

Each new Certificate is subject to review and approval by the relevant college curriculum committee and the Academic Planning and Policy Committee of the Academic Senate. Requests for approval of a Certificate should be submitted according to the timeline of the appropriate college curriculum committee and should follow the format below:

1. Full and exact title of the Certificate program and level of the program (Certificate of Specialized vs. Advanced Study). Name and position of the person(s) submitting the proposed Certificate. Intended implementation date of the program.

Certificate in Applied Geographic Information Systems (GIS)  
Certificate of Specialized Study  
Laura Makey, Certificate Coordinator  
Fall 2015

2. List of the existing programs in the discipline(s) under which the new Certificate is to be offered.

NA. This will be a stand-alone certificate.

3. List of the existing program(s) that may be affected by the proposed Certificate.

NA. There are no existing programs addressing this content area.

4. Purpose of the proposed Certificate, including specific academic objectives served, professional applications, potential student market, and a statement explaining the need for the Certificate in comparison to existing related majors, minors, and Graduate programs.

Geospatial analysis is used across many academic disciplines, and in many industries and careers. This Certificate in Applied GIS will allow students to supplement their existing skill set with GIS based technology, data analysis, image analysis, and mapping. The ability to use GIS is a valued workplace skill for many jobs in government, the private sector, academia, and consulting. The purpose of this certificate is to impart the extended skills required for implementing GIS and related geocomputational techniques in real world applications. This certificate combines skills and knowledge of four domains: i) substantive geography and basic geospatial analytical techniques; ii) GIS skills obtained through advanced GIS coursework; iii) ethics and decision making, and; iv) synthesizing GIS learning through completion of a real-world project. Students will be required to demonstrate a minimum proficiency in basic GIS skills in order to be eligible for the Certificate Program. Palomar College offers an entry-level GIS certificate and this proposed certificate is intended to build on the basic skills students may acquire there or through a variety of other avenues (such as ESRI online training, on-the-job training, or self instruction). Extended Learning has documented a need for additional GIS instruction in our service area and their market report is available upon request.

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

|           |  |   |
|-----------|--|---|
| GEOG 320  | Patterns of San Diego County           | 3 |
| GEOG 330  | GIS Explorations across the Curriculum | 3 |
| GEOG 430* | GeoVisualization                       | 3 |

GEOG 435\* Research in GIS

3

Total Units: 12

\*New Courses to be developed at CSUSM for the Certificate

6. Definition of the minimum level of competence to be demonstrated to earn the proposed Certificate, and a description of the means of assessing that competence (examination, practicum, field experience, etc.).

The Certificate of Applied GIS consists of four courses for a total of 12 units of upper-division academic credit. Course content builds on concepts learned in previous courses and students will enroll in courses in the order listed above. GEOG320 and GEOG330 will be offered in Fall; GEOG430 and GEOG435 will be offered in the Spring

Completion of all four courses with a grade of “C” or better is required to earn the certificate.

7. Description of assessment strategies for waiver of lower division requirements (where applicable).  
NA.
8. New courses to be developed. Include proposed catalog descriptions in the Certificate proposal. “C-forms” for these courses should accompany the proposed Certificate package for curricular review.

**GEOG430 GeoVisualization:** Introduces students to the principles of cartography and geographic visualization. Includes overviews of the relevant software and current trends in information technology (e.g. interface design, animation, multimedia, sound, multivariate displays, 3D, etc.). In addition, students will be introduced to the cognitive factors important to the design of cartographic animation and hypermedia.

**GEOG435 Research in GIS:** A capstone experience where students will complete a project to show understanding of the basic tenets of GIS and apply geospatial analysis to demonstrate competency in spatial decision-making as well as demonstrate the ability to recognize, analyze and address ethical issues in geographic information science, technology and research methods.

9. 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.

**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

**Allen Risley**

Lecturer in Liberal Studies

M.S. Political Science (Florida State University, 1989)

Faculty member at CSUSM since 2010

**Laura Makey**

Lecturer in Liberal Studies & Global Studies

M.I.M. (Thunderbird Graduate School of International Management, 1987)

Faculty member at CSUSM since 1998

10. Instructional resources (faculty, space, equipment, library volumes, etc.) needed to implement and sustain the Certificate program.

We currently have the following key resources on campus:

- ESRI GIS, Community Analyst, 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 1108
- 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

Additional resources are not needed at this time. Significant enrollment and/or growth of the program may require expansion of the above resources.