**Program Information**

**Program Title** Program title must match exactly what is going to be submitted to COCI.

Geographic Information Systems (GIS)

**Submission Type** Is your submission a new program or are substantial changes being made to an
existing program?

**\_\_X\_\_New Program**

**\_\_\_\_Substantial Changes**

**TOPs Code**

220601

**Projected Start Date** (mm/dd/yyyy)

August 25, 2022

08/25/2022

**Catalog Description** Catalog Description includes program requirements, prerequisite skills or enrollment limitations, student learning outcomes, and information relevant to program goal.

Geospatial technologies, including Geographic Information Systems (GIS), Remote Sensing (RS), and Global Positioning System (GPS), are used to capture, store, manage, analyze and visualize geospatial information related to locations on Earth's surface. These technologies are used to combine various types of geospatial information in a digital environment and are widely used in our daily life, government agencies, in almost every industry.  Through this program students will develop an understanding of the theoretical underpinnings of geospatial technologies and gain the skills needed to construct high-quality applications.

**Enrollment Completer** **Projections** Enrollment Completer Projections are projections of number of
 students to earn certificate or degree annually.

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**Program Proposal Attributes**

|  |  |
| --- | --- |
| **Program Award Type(s**) (Check all that apply) | \_\_\_ Certificate of Achievement: **8 to fewer than 15** semester units (B) \_X\_\_Certificate of Achievement: **16 or greater** semester units (C)\_X\_\_A.S. Degree (S)\_\_\_A.A. Degree (A)\_\_\_A.A.-T Degree (Y)\_\_\_A.S.-T Degree (X)\_\_\_Noncredit Program (NIL) |

**Program Goal** Program Goals and Objectives must address a valid transfer, occupational, basic skills,
civic education, or lifelong learning purpose. Regional recommendation is only needed for programs with an occupational goal.

According to the United States Department of Labor, the demand for students with GIS skills will continue to increase in the future. The Bureau of Labor Statistics states that GIS related jobs are among the fastest-growing new or emerging fields in the United States. The Certificate of Achievement in Geographic Information Systems (GIS) will expand the program and offer an option for students looking to update their geospatial skills and enhance their marketability in the workforce.

In collaboration with industry, the department has developed the program which will offer students the opportunity to learn technical skills that can be applied in a multitude of courses and disciplines, such as crime analysis, architecture, business, and archaeology to name a few.

**Core Units and Hours**

|  |  |
| --- | --- |
| Total Certificate Units (Minimum and Maximum) |  |
| Units for Degree Major or Area of Emphasis (Minimum and Maximum) | **20** |
| Total Units for Degree (Minimum and Maximum) | **60** |

**Course Report**

**Program Requirements Narrative**

The program consists of seven courses and begins with a Geospatial Concepts course, then progresses to coursework covering GIS, Cartography, Data Management, Spatial Analysis, and Raster Methods. Upon completion of GIS courses students are eligible to enroll in a GIS Capstone Project course. The courses we offer are designed to provide students with the skills and knowledge necessary for entry-level employment.

Our GIS advisory committee convened in 2021 and strongly recommended a certificate as GIS technologies are increasingly being used in a variety of fields. This certificate would serve students who want to gain expertise for their current and/or future job requirements. Upon completion of the Certificate in GIS students would gain proficiency with multiple GIS software programs, knowledge of databases and programming, and skills in cartographic design.

**Program Requirements** Program Requirements includes course requirements and sequencing
that reflect program goals.

|  |  |  |  |
| --- | --- | --- | --- |
| Course | Title | Units | Year/Semester(Yr or S1) |
| Geog 9 | Geospatial Concepts | 3 | Yr 1 Fall |
| Geog 10 | Introduction to GIS | 3 | Yr 1 Fall |
| Geog 11 | Cartography | 2 | Yr 1 Fall |
| Geog 12 | Geospatial Data Management and Acquisition | 3 | Yr 1 Winter |
| Geog 13 | Spatial Analysis | 3 | Yr 1 Spring |
| Geog 14 | Raster Methods | 3 | Yr 1 Spring |
| Geog 15 | Capstone Portfolio | 3 | Yr 1 Summer |

**Reason for approval request.**

\_x\_\_New Program

\_\_\_Substantial Change

\_\_\_Locally Approved

**Place of program in college's curriculum/similar program.**

Humanities and Social Sciences Division, alongside Geography department

**List similar programs at other colleges in the Los Angeles and Orange County Region.**

Pasadena - Certificate of Achievement and AS, LA Pierce College - Certificate of Achievement and AA, Cypress College - Certificate of Achievement

**Annual Enrollment projects (non-duplicative)**

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**Priority Sector** (if unsure, see next page)

middle skills, technology

ICT/Digital Media

**Sector Listing By TOP Code**

|  |  |  |
| --- | --- | --- |
| **TOP6 Code** | **TOP6 Title** | **Priority Sector** |
| 11300 | Food Processing and Related Technologies | Agriculture, Water and Environmental Technologies |
| 50100 | Business and Commerce, General | Business and Entrepreneurship |
| 50200 | Accounting | Business and Entrepreneurship |
| 50210 | Tax Studies | Business and Entrepreneurship |
| 50400 | Banking and Finance | Business and Entrepreneurship |
| 50500 | Business Administration | Business and Entrepreneurship |
| 50600 | Business Management | Business and Entrepreneurship |
| 50630 | Management Development and Supervision | Business and Entrepreneurship |
| 50640 | Small Business and Entrepreneurship | Business and Entrepreneurship |
| 50650 | Retail Store Operations and Management | Retail, Hospitality and Tourism |
| 50800 | International Business and Trade | Global Trade |
| 50900 | Marketing and Distribution | Business and Entrepreneurship |
| 50910 | Advertising | Business and Entrepreneurship |
| 50920 | Purchasing | Business and Entrepreneurship |
| 50940 | Sales and Salesmanship | Business and Entrepreneurship |
| 50960 | Display | Retail, Hospitality and Tourism |
| 50970 | e-commerce (business emphasis) | Business and Entrepreneurship |
| 51000 | Logistics and Materials Transportation | Advanced Transportation and Logistics |
| 51100 | Real Estate | Business and Entrepreneurship |
| 51110 | Escrow | Business and Entrepreneurship |
| 51200 | Insurance | Business and Entrepreneurship |
| 51400 | Office Technology-Office Computer Applications | Information and Communication Technologies - Digital Media |
| 51410 | Legal Office Technology | Business and Entrepreneurship |
| 51430 | Court Reporting | Unassigned |
| 51440 | Office Management | Retail, Hospitality and Tourism |
| 51600 | Labor and Industrial Relations | Retail, Hospitality and Tourism |
| 51800 | Customer Service | Business and Entrepreneurship |
| 59900 | Other Business and Management | Business and Entrepreneurship |
| 60600 | Public Relations | Retail, Hospitality and Tourism |
| 60700 | Technical Communication | Information and Communication Technologies - Digital Media |
| 61000 | Mass Communications | Information and Communication Technologies - Digital Media |
| 61220 | Film Production | Information and Communication Technologies - Digital Media |
| 61400 | Digital Media | Information and Communication Technologies - Digital Media |
| 61410 | Multimedia | Information and Communication Technologies - Digital Media |
| 61420 | Electronic Game Design | Information and Communication Technologies - Digital Media |
| 61430 | Website Design and Development | Information and Communication Technologies - Digital Media |
| 61440 | Animation | Information and Communication Technologies - Digital Media |
| 61450 | Desktop Publishing | Information and Communication Technologies - Digital Media |
| 61460 | Computer Graphics and Digital Imagery | Information and Communication Technologies - Digital Media |
| 69900 | Other Media and Communications | Information and Communication Technologies - Digital Media |
| 70100 | Information Technology, General | Information and Communication Technologies - Digital Media |
| 70200 | Computer Information Systems | Information and Communication Technologies - Digital Media |
| 70210 | Software Applications | Information and Communication Technologies - Digital Media |
| 70700 | Computer Software Development | Information and Communication Technologies - Digital Media |
| 70710 | Computer Programming | Information and Communication Technologies - Digital Media |
| 70720 | Database Design and Administration | Information and Communication Technologies - Digital Media |
| 70730 | Computer Systems Analysis | Information and Communication Technologies - Digital Media |
| 70800 | Computer Infrastructure and Support | Information and Communication Technologies - Digital Media |
| 70810 | Computer Networking | Information and Communication Technologies - Digital Media |
| 70820 | Computer Support | Information and Communication Technologies - Digital Media |
| 70900 | World Wide Web Administration | Information and Communication Technologies - Digital Media |
| 70910 | E-Commerce (technology emphasis) | Information and Communication Technologies - Digital Media |
| 79900 | Other Information Technology | Information and Communication Technologies - Digital Media |
| 80200 | Educational Aide (Teacher Assistant) | Education and Human Development |
| 80210 | Educational Aide (Teacher Assistant), Bilingual | Education and Human Development |
| 80900 | Special Education | Education and Human Development |
| 86000 | Educational Technology | Education and Human Development |
| 89900 | Other Education | Education and Human Development |
| 130100 | Family and Consumer Sciences, General | Retail, Hospitality and Tourism |
| 130110 | Consumer Services | Retail, Hospitality and Tourism |
| 130200 | Interior Design and Merchandising | Retail, Hospitality and Tourism |
| 130300 | Fashion | Retail, Hospitality and Tourism |
| 130310 | Fashion Design | Retail, Hospitality and Tourism |
| 130320 | Fashion Merchandising | Retail, Hospitality and Tourism |
| 130330 | Fashion Production | Advanced Manufacturing |
| 130500 | Child Development-Early Care and Education | Education and Human Development |
| 130520 | Children with Special Needs | Education and Human Development |
| 130540 | Preschool Age Child | Education and Human Development |
| 130550 | The School Age Child | Education and Human Development |
| 130560 | Parenting and Family Education | Education and Human Development |
| 130570 | Foster and Kinship Care | Education and Human Development |
| 130580 | Child Development Administration and Management | Education and Human Development |
| 130590 | Infants and Toddlers | Education and Human Development |
| 130600 | Nutrition, Foods, and Culinary Arts | Health |
| 130620 | Dietetic Services and Management | Health |
| 130630 | Culinary Arts | Retail, Hospitality and Tourism |
| 130660 | Dietetic Technology | Health |
| 130700 | Hospitality | Retail, Hospitality and Tourism |
| 130710 | Restaurant and Food Services and Management | Retail, Hospitality and Tourism |
| 130720 | Lodging Management | Retail, Hospitality and Tourism |
| 130730 | Resort and Club Management | Retail, Hospitality and Tourism |
| 130800 | Family Studies | Education and Human Development |
| 140200 | Paralegal | Unassigned |