Increasingly, organizations in the US and around the world are adopting Geographic Information Systems (GIS) and related technologies in ways that promise to transform what they do and how they do it.

The transformative use of GIS poses challenges beyond end-user GIS activities, such as spatial analysis. These challenges involve using GIS technologies as integral parts of solutions for important organizational problems and opportunities. Claremont Graduate University’s School of Information Systems and Technology will provide you with the necessary technical and managerial knowledge these new challenges demand.
The GIS Solutions Development concentration within the Master’s of Information Systems and Technology degree program is technical in its focus and is designed to develop the skills needed to create applications rather than simply use them. The skills needed for GIS system design and development require advanced analytical as well as technical proficiencies including system analysis, database design and development, user interface design, and programming. These are at the center of the GIS Solutions Development concentration. The concentration accounts for 16 of the 44 units required to complete the master’s degree.

**Introduction to GIS Solution Development (4 units)**

This course will introduce you to the design and development of basic GIS applications and systems. Utilizing knowledge gained in core IS courses; you will develop the fundamental components of a GIS solution.

**Course Overview**
- Explore conceptual foundations of spatial information systems
- Review cartographic and data visualization techniques
- Examine several types of geospatial data and special information systems
- Address spatial analytic methods
- Outline geospatial modeling, manipulation, and management practices
- Examine design aspects of a GIS

**Advanced GIS Solution Development (4 units)**

This course builds on the knowledge gained in the introductory GIS Solution Development course and focuses on the development of advanced GIS solutions. You will acquire advanced technical skills and focus on designing and developing advanced GIS solutions to meet organizational and end-user needs. The course concludes with the delivery of a prototype GIS-based solution that addresses a real-world problem. The course ensures that you are exposed to the most current technologies and examines emerging issues and trends in the field.

**Course Overview**
- Evaluate GIS solution performance optimization techniques
- Configure and administrate a server-based GIS
- Determine development platform and methodology

**GIS Solution Development—Practicum (4 units)**

This course provides you with an opportunity to design, develop, and implement a GIS-based solution in response to an industry/organization-defined problem. Ideally, this course will place you in an organization that is involved in the development of GIS systems and applications on a part-time basis for a semester. You will be involved in various aspects of project planning and management (e.g., client relations, scheduling, data acquisition, etc.). This course is designed to transition you from a classroom participant to a professional GIS Solution Development practitioner.

**Spatial and Visual Information Systems (4 units)**

This course provides an overview of the theoretical foundations and the applied use of Geographic Information Systems (GIS). At the end of the course, you will have a working knowledge of GIS and how to apply these systems in various situations and organizational settings.

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**ESRI Development Center**

In addition to outstanding coursework and excellent faculty, CGU SISAT will also provide you with a unique resource as we are home to an ESRI Development Center (EDC). The EDC program was created to give recognition and status to exemplary college departments worldwide that educate students in the advanced development of ESRI’s GIS technology. The EDC provides students and faculty with the capabilities to teach and develop state-of-the-art applications in a prototype lab. ESRI-provided training focuses on information systems and technology, and offers student recognition through an annual achievement award.

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