



### Empowering Colleges: Expanding the Geospatial Workforce



## Revision of the Geospatial Technology Competency Model by Rodney Jackson, Senior Researcher, GeoTech Center

The Geospatial Technology Competency Model framework was developed through a collaborative effort involving the Employment and Training Administration (ETA), the GeoTech Center, and industry experts.

updated the model with guidance from ETA to reflect the knowledge and skills needed by today's geospatial technology professionals. Information about the specific content updates can be found in the [Summary of Changes](#).

Over the course of 2018, the GeoTech Center and industry subject matter experts

The GeoTech Center in collaboration with

Continued on **4**

**Free MOOC's:**  
 1. Drone Safety & Applications  
 2. Intro to Geospatial Tech  
 Page 2

**UAS DACUM!**  
 Page 3

**GeoEd 2019 and other GeoTech Center Sponsored Workshops!**  
 Page 5

## GeoTech Center Information

This material is based on work supported by the National Science Foundation (DUE #1700496). Any opinions, findings, and conclusions expressed in this material are those of the authors(s) and not necessarily those of the National Science Foundation.

The GeoTech Center is virtual, comprised of a Director, four Associate Directors, and eight Assistant Directors from institutions across the nation. The central office is located at Jefferson Community and Technical College (JCTC) in Louisville, KY.

JCTC  
1000 Community College Drive  
Louisville, KY 40272  
(502) 213-GEOT  
GeoTech@kctcs.edu

## Contact Information

For Center questions, contact:  
Vince DiNoto, Center Director  
vince.dinoto@kctcs.edu  
502-213-7280

To submit an article for the newsletter, contact:  
Ken Yanow, Newsletter Editor  
kyanow@swccd.edu  
619-421-6700, ext. 5720



## Free MOOC's!

Interested in taking a free MOOC? Consider the following two courses, now up and running:

### Drone Safety and Applications

Unmanned Aircraft Systems (UAS) are revolutionizing how researchers and practitioners view, model, analyze, and interpret our world!

In this course, you will take a look at what a UAS or "drone" is, discover all of the varied applications of drone flight, and learn about drone safety (and flying within the regulations of the Federal Aviation Administration).

This course is self-paced. Take your time as you go through the material and be sure to watch all of the assigned videos.

This course was written via a National Science Foundation (NSF) grant: DUE #1700552: Unmanned Aircraft System Operations Technician Education Program (UASTEP). The UASTEP project is a collaboration between Palomar College and Southwestern College, as well as their partner high school districts, universities, and various industry partners. career pathways.

To register for the course,

please visit:

<https://canvas.instructure.com/enroll/YEMRJB>

### Introduction to Geospatial Technologies

Geospatial Technology is an absolutely wonderful field, and is more prevalent and pervasive throughout society than what you might think. Whether it's the map on your smart phone, the basemap in a video game, or the maps you see on TV, "geospatial" is all around us. In this class, you will learn the fundamentals of geospatial technology, which includes spatial analysis, cartography, Global Positioning Systems (GPS), remote sensing, Unmanned Aerial Systems (drones), and Geographic Information Systems (GIS).

This course is self-paced. Take your time as you go through the material and be sure to watch all of the assigned videos.

To register for the course, please visit:

<https://canvas.instructure.com/enroll/YTXKRR>

**Questions?** Please contact Ken Yanow at:

[kyanow@swccd.edu](mailto:kyanow@swccd.edu)

## UAS DACUM!

The GeoTech Center, in collaboration with UASTEP (see [uastep.org](http://uastep.org)) hosted a 2-day UAS DACUM on the campus of Palomar College in San Diego, CA. Participants included UAS professionals from a variety of occupations, including law enforcement, surveying/mapping, defense and homeland security, GIS management, engineers, and private UAS companies.

DACUM is an acronym for “Developing A CurriculUM” – a job analysis process invented in 1976 at The Ohio State University’s Center on Education and Training for Employment and used worldwide for over 40 years to bridge the gap between *what is taught* and *what is actually needed* in the workplace. DACUM is a quick, low cost method of defining a job or occupation through its duties and tasks that then allows for the creation of quality curriculum and programs to train individuals for that job. Over the two-day period, subject matter experts collaborate to create a comprehensive chart of the major areas of job responsibility and associated tasks that make up the work of professionals in the field. DACUM’s also identify the knowledge and skills, worker behaviors (a.k.a. “soft skills”), and tools/equipment/supplies necessary for success in the occupation. Future trends and concerns that SME’s foresee in the industry are also discussed.

The results of the DACUM will be posted soon!

For more information regarding the DACUM and when it will be published, please feel free to contact Ken Yanow ([kyanow@swccd.edu](mailto:kyanow@swccd.edu)) or Wing Cheung ([wcheung@palomar.edu](mailto:wcheung@palomar.edu)).



## Continued from Page 1...GTCM Update

the US Department of Labor Employment and Training Administrations began the update with an online survey of participants from the geospatial field, who evaluated the 290 competencies within the GTCM. The results of the survey showed that 42 competencies were seen as having less relevance to the geospatial field. These results were shared with a panel of subject matter experts (SMEs) along with a new series of surveys of the identified areas of concern. The board of SMEs determined that 20 competencies remained in question. More interesting, though, was the number of competency revisions submitted by the group, as they identified sections with outdated references. We compiled the imperiled competencies, potential new competencies, and suggested changes to the existing competencies and presented them to a workforce panel. The workforce panel completed a survey of the areas in question before the convening of a review board. The workforce panel identified that seven competencies remained

questionable, but many areas needed to be revised to stay current.

The results of the workforce panel show minimal modification with Tier 1 (personal effectiveness competencies) two minor edits, Tier 2 (academic competencies) four minor edits, and Tier 3 (workplace competencies) two additions. The workforce panel made more significant changes in Tier 4 (industry-wide technical competencies), where 15 competencies were modified (seven minor edits, 7 major edits, and one removal), and Tier 5 (industry-sectors technical competencies), which had 22 edits (fourteen minor edits, six major edits, two removal/additions).

Ultimately, the changes occurring during the 2018 update resulted in keeping the GTCM as an accurate reflection of the field. The lack of substantive changes during this revision reflects the resilience of the initial GTCM and subsequent update.

For additional

information, please contact Rodney Jackson at:

[rjackson0216@kctcs.edu](mailto:rjackson0216@kctcs.edu)

To access the newly revised GTCM, please visit:

[www.careeronestop.org/competencymodel/competency-models/geospatial-technology.aspx](http://www.careeronestop.org/competencymodel/competency-models/geospatial-technology.aspx)

or,

[www.geotechcenter.org](http://www.geotechcenter.org)



## Save the Dates!

**The National Geospatial Technology Center of Excellence will be sponsoring a number of regional workshops in 2019.**

### **GeoEd'19: June 10-12, 2018: GeoEd Conference and Exploratorium**

The 12<sup>th</sup> annual GeoEd conference will be held at Jefferson Community and Technical College on the Southwest Campus during the week of June 10<sup>th</sup>. The conference features a variety of topics, which will require different skill levels. The workshops will be either half day or full day events. Lunchtime will include networking, short presentations and guest speakers who will discuss trends in geospatial technology. GeoEd'19 is free for all participants including educators at all levels, the private sector and government employees. Stipends are available for educators. To register for GeoEd'19 visit:

<http://www.geotechcenter.org/geod-19.html>, registrations are accepted on a first come first serve basis. Topics include UAS (planning, analysis and certification), geostatistics, LiDAR, ArcGIS Pro, field data collection (Survey123 and Collector), Story Map Creation, building and using online applications.

**Other, regional workshops will be held in San Diego, Delaware, Champaign (IL), and Eugene (OR). Please see the attached flyer on the next page for further information (including how to register).**



# SUMMER 2019 REGIONAL WORKSHOPS

**Delaware Technical Community College, Newark, DE: June 25-27, 2019**

## *Introduction to ArcGIS Pro*

This workshop will be an Introduction to ArcGIS Pro. Participants will learn how to make and share maps, how to work with spatial data, and learn the new workflows associated with ArcGIS Pro. Previous desktop or ArcGIS Online experience required.

**San Diego State University, San Diego, CA: July 15-17, 2019**

This workshop will have participants using drones for data capture and for the derivation of 3D models, designing and publishing local projects using ArcGIS Online, creating and developing StoryMaps, performing spatial analysis using ArcGIS Online, and exploring data capture apps such as Survey123. As part of this workshop, participants will develop a lesson or exercise that can be used in one of their courses.

Location: Richard Wright Spatial Analysis Lab, San Diego State University

**Parkland College, Champaign, IL: July 30-August 1, 2019**

## *Getting Started with UAVs and FAA Part 107 Certification*

This workshop will focus on how to get started with UAVs, will prepare participants to take the FAA Part 107 Certification, introduce the legal aspects of UAVs, and provide participants hands on experience working with UAVs.

Location: 2400 West Bradley Avenue, Champaign, IL 61821

**Lane Community College, Eugene, OR: August 6-8, 2019**

Participants in this workshop will learn how to work with ArcGIS Online, StoryMaps, mobile data collection apps such as Collector for ArcGIS and Survey123, and other geospatial resources. As part of this workshop, participants will develop a lesson or exercise that can be used in one of their courses.

Location: 4000 E 30th Ave, Eugene, OR 97405

### **Workshop Details & Requirements**

- Workshops are open to middle/high school educators and 2-year and 4-year educators.
- Participants will receive a \$700 stipend for attending a workshop in its entirety. Additionally, participants are expected to develop curricular materials that can be used for teaching purposes and to share these materials with the GeoTech Center Community of Practice.
- A complete application consists of the following materials:
  - Completing the [online application](#), providing a signed W-9, and providing an image of yourself
  - A 1-2 page curriculum vitae (CV) elaborating on teaching and geospatial experience (you do not have to have prior geospatial experience to apply to all workshops)
  - A proposal explaining what curriculum, exercise, or activity you will develop as part of the workshop



## APPLICATIONS ARE BEING ACCEPTED FOR OUR REGIONAL WORKSHOPS

### APPLY NOW!

Participants must arrange and pay for their own transportation and lodging.

There are no workshop registration fees or tuition.

#### **Application deadline:**

May 3, 2019 for the Delaware and San Diego workshop

#### **Application deadline:**

June 7, 2019 for the Parkland and Lane workshops

Applications are accepted on a rolling basis so be sure to get your application in early!

If you are interested in attending any of the workshops, or you would like to learn more about the workshops, please contact Nicole Ernst:

[nlernst@hacc.edu](mailto:nlernst@hacc.edu)

[WWW.GEOTECHCENTER.ORG](http://WWW.GEOTECHCENTER.ORG)