

Quarterly GIS BILT Meeting September 24, 2014

Meeting Minutes

Introduction by Phil Davis at Del Mar College

Del Mar Certificate

Phil – I want to give a quick overview of what we’ve been doing and get feedback from you all. We’ll discuss the new QGIS Academy Curriculum that we’ve done, as well as cover some of the background on curriculum development, descriptions of five GIS courses. We’ll also demonstrate the curriculum lecture, lab and videos, and discuss plans for future development and distribution. We have one complete curriculum, based on national standard (GTCM), and we have four high-qualified subject matter experts helping to develop it. We have five complete courses which include lecture, labs, and assessments. We created 40 complete labs in two formats (Esri ArcGIS 10.1 and QGIS). There are 200 full-time equivalent students enrolled in first Academy cohort online (fall 2014) so that is exciting. We had more than 2300 beta testers during the summer 2015 that looked at the curriculum, which led to a “Mastering QGIS” book by PACKT. As of today, we’ve had 15,000 people come to our website and that speaks volume about interest. You can also see that we’ve had inquiries from around the globe on this. The QGIS Academy is the first national attempt at a completely open-based GIS curriculum. It includes complete course packs aligned with national standard (GTCM), which contains theory, lecture, labs, data and videos. There are many goals of the QGIS Academy but I’ll go over some of them for you all. The QGIS Academy provides educational resources infrastructure for educators and trainers, promotes the adoption of open source for undergraduate programs, prepares graduates for what we consider lifelong learning skills, and increase the use of open source tools in college GIS programs. The Academy offers primarily curriculum materials, multimedia theory presentations, QGIS laboratory documents with screen shots and data, task-oriented how-to videos that match lab documents, and objective assessment database of 200+ questions. The Geospatial Technology Competency model (GTCM) is a US Dept. of Labor national clearinghouse model that was published in 2010 and revised in 2015. The model describes the complete set of knowledge, skills, and abilities required by industry workers. It is built on hierarchical tiered model of knowledge, and promotes use of open source technology. Our QGIS Academy Curriculum consists of five core courses which were decided on by the GeoTech Center in 2010-2012: Introduction GIS (GST 101), Spatial Analysis (GST 102), Data Management (GST 103), Cartography (GST 104), and Remote Sensing (GST 105). Introduction to Geospatial Technology Using QGIS (GST 101) covers the fundamental overview of GIS theory and practice, geospatial data types and formats (vector, raster, etc), elements of geography, fundamentals of cartography, and introduction to remote sensing. It just gives students a broad overview. Spatial Analysis using QGIS (GST 102) covers how to prepare data for use in analysis, solve a problem using geospatial tools and methods, run geoprocessing tools implement a model to run several tools in sequence, organize the data sets resulting from analysis, and present the results of a using terminology and visualizations. Data acquisition and managements using QGIS (GST 103) will describe the collection of field data, digital conversion of existing hardcopy maps, and the construction of spatial data from known locations, demonstrate basic proficiency to collect, record, and utilize spatial data

and databases, demonstrate an ability to collect, create, and process spatial data within a variety of environments, describe and explain the similarities and differences between data models as well as how data is treated differently within each format, to include the conversion of data between different formats, as well as demonstrate an understanding of the fundamentals of GIS data storage and interoperability. Introduction to cartography using QGIS (GST 104) give students the opportunity to categorize and describe different types of maps (thematic, reference, etc.), describe the components of a map (map elements), employ an appropriate geographic referencing system (datum, projection, coordinate system), select and apply ethical and appropriate data model, map scale, map elements, symbolization and color, design professional quality maps employing cartographic principles, and critique maps for appropriate use of cartographic design principles. Students will finish with Introduction to Remote Sensing using QGIS and GRASS GIS (GST 105) and learn about describing basic physics concepts on which remote sensing is based (i.e. Electromagnetic Spectrum, etc.), selecting appropriate data set for remote sensing application based on spectral, temporal, radiometric and spatial resolution, describing characteristics of passive and active remote sensing systems (such as multispectral, LiDAR and Radar), performing basic remote sensing workflows to solve problems (such as acquiring data, feature extraction, change detection, pre- and post-processing, create composite images and image classification), applying basic concepts, methods and uses of accuracy assessment and ground truthing to the results of remote sensing workflows, and how to interpret, analyze and summarize results of a remote sensing workflow. The beta was launched in June 2014. 2,325 students enrolled as of 8/6/2014, and every continent has participants (Except Antarctica). We have five complete course packages, and 100+ QGIS how-to videos. Our future plans include incorporating digital badges for completion using Open Badges by Mozilla. We're currently offering courses through Continuing Education (CE) for \$25 each, and the courses are four weeks long. Students will receive a Continuing Education Certificate of Completion for each course if they make 85% grade or better. They will also receive a Continuing Education Skills degree for passing 5 course curriculums. The Continuing Education courses can be converted to undergraduate credit hour courses one for one (for a small fee). We're also currently looking at a partnership with Canvas Networks for MOOC offering in late fall or early spring next year. We'll provide the BILT with our contact information and websites. Before I go any further than that, I'd like to take any questions or comments from the BILT members.

Bill Hodge – I have a comment and a question. I'm very impressed with what I see in terms of the background and enrollment. There is no doubt in my mind that someone that comes out of this program will be a substantial asset to any company. My question is in the month or duration of each course, how many student activity hours do you estimate that they come through?

Phil Davis – This is not a MOOC, it is a class. We've limited enrollment to 25 students, and the instructors are in there a minimum of four days a week. We've set this up to be 48 contact hours at a minimum, and that is what we can do. If they do all five courses, they would total 250 hours.

Bill Hodge – The reason that I am asking is because from a first-time applicant standpoint, each student activity hour equals one education point. This would be something that would be beneficial for people outside of GIS that are looking for courses along that way.

Phil Davis – We're trying to push for certification. We're running into the grinding wheel because "Geo For All" doesn't feel this is something that they want to take on. I've been pushing for the GISP to be a

part of this. There are some issues to work through but we're getting there. I appreciate your comments, Bill because it adds value to what we're doing.

Bill Hodge – I just wanted to let you know because from the GISCI perspective, it does not need to be an accredited course or university in order to be qualified.

Phil Davis – Well, they are accredited. This is why we have to deal with our academic department and convert these to undergrad hours.

Rob Thomas – I have a couple of things to say. Did I see in the slides that you charge \$25 per class and there are only 25 students per class?

Phil Davis – That is correct. We are not making money on this, we're losing money.

Rob Thomas – That is where I was going with that.

Phil Davis – We pay our adjuncts \$35 an hour based on about 35 hours. If you look at what we're recouping; we would give it away for free but DOL says that we can't do that so we charge a minimal fee of \$25. This is not sustainable in the long-term; we know that. We could charge \$100 a course because of demand, which would make it sustainable. We're also working to offer an UDEMY course where we could charge more. There would be a 75/25 split of revenue with them. So we have three MOOC platforms: Canvas, UDEMY, and another one from New York. My SMEs are done with the development process of wrapping up the labs so they will be done with that. They are all committed to open-source and being educators so we want to see this thing grow. This is a starting point & we'll keep moving on with it.

Demetrio Zourarakis – Very useful resources. How do you see this growing into formal curriculum?

Phil Davis – Right now, it is matched to what we're doing at Del Mar. The people that are enrolled in the current QGIS Academy that we're offering are all over the country. We have 50 people in two cohorts right now that are signed up for all five courses. They are midway through the first course.

Demetrio Zourarakis – So they have a pace to them – they have a beginning and end. It is not self-paced, right?

Phil Davis – Yeah, the courses that we're offering are traditional online courses with a start & end date. They go through our Del Mar Continuing Education department.

Demetrio Zourarakis – How does it integrate with the certification and certificate programs that two-year colleges have?

Phil Davis – Good question. I'm going to let JJ Nelson talk about our stackable certificates.

JJ Nelson – As you know, our GIS courses are online as well as hybrid. We have the robust curriculum, and have added an accelerated option as well. All of our material in regards to the GIST were reviewed and approved by the TSSB. We then developed the GTCM model, which is the NISGTC model. We've already talked about our curriculum meeting Esri ArcMap software & QGIS; it is all commercial and open-source. As I just mentioned we have the accelerated model from 16 weeks to 4-8 weeks. I'll talk more about the industry contact hours that are associated with embedded labs and seminars; that could

then transfer as CEUs. So that we don't lose the robust nature of our degree plan, we incorporated a MSA that we require students to complete in order to move into our GIS program. This is a fast-track computer science core with five courses for a MSA. As you may already know, our online hybrid GIS Tech 1 certificate can be completed in three courses; you can basically complete it in 24 weeks. We want to really create a GIS Industry Inclusion program for ESRI ArcGIS Desktop & On Line Basics, which includes: ArcGIS Online Subscriptions, ArcGIS 10 Deployment, Getting Started with GIS, Teaching with GIS, Getting Started with GIS (for ArcGIS 10.0), Basics of Geographic Coordinate Systems, The 15-Minute Map, and Layout Design Essentials for ArcGIS 10.1. Currently these ESRI Virtual Campus courses and seminars are completed within the GISC 1311 course. GISC 1311/GST 101 are 3 college credits, 25 ESRI VC contact hours, 5 ESRI VC Certificates with 21 mandatory contact hours, and 4 mandatory seminar contact hours. 25 ESRI contact hours will equal to 2.5 CEUs if the student decides to receive a Del Mar College certificate for a nominal fee. The lab modules are graded individually, and each course has an exam. The seminars require a 150-250 word synopsis to be turned in and graded. The instructor of record for the course monitors the students' lab work and exam scores via Canvas and the ESRI VC site. This would be called ArcGIS Basics 1. I will send you all information on this and a link for a survey; I hope to get an idea on your thoughts in regards to this.

Demetrio Zourarakis – I saw some slides that said something about surveying. How are you handling the interface with surveyors?

JJ Nelson – We just developed the survey class; that class would be one that is taught on campus.

Bill Hodge – From a Midland hiring manager hat, I wanted to say that I applaud your work with open-source and any ESRI software. I like the idea that a student would be introduced to both; this will give students a broad platform. This tells me that the student will be much more familiar with the world than other graduates who would only have ArcMap experience. What I would like from the GISP certification standpoint, is that you are looking at the ESRI standard training course, giving them that information, and suggest to them that they can look for a downstream certification from the ESRI standpoint. Although the ESRI certification is not the same as the GISP, what you have done is given the student a move to think about. This is nothing but a good thing for students to learn as early as possible. I applaud the content.

JJ Nelson – That is what I was trying to achieve.

Christina Titus – I would like to take this moment to ask the BILT, between the QGIS information and the CEU certificate that JJ just shared, does the BILT recognize both of these items?

BILT recognize Del Mar's certificate

Trends

Phil Davis – I would like to take moment for the BILT to share with us if there is anything else that we should be teaching in our programs such as UAVs, drones, or any new technology that we should be aware of?

Demetrio Zourarakis – We recently had a GIS conference on September 15-18th in Kentucky. Two of the workshops during that conference had to do with mobile geospatial data collection. There were a lot in

attendance so that was good. The mobile workforce in the geospatial industry is huge so I thought that was important to share.

Phil Davis – Adam Dastrup from SLCC is developing a mobile GIS course right now. Wayne, can you give us an update on the labs?

Wayne Lewis – All of the labs have been submitted. There are a few that have been completed, while others are still being worked on.

Phil Davis – We hope to have those on the website by October so that should put us on track.

Carolyn French – I want to be on the list for SMEs.

Phil Davis – We will go ahead and add you. Do you want to come to Corpus to do a presentation?

Carolyn French – Yes, I would love to.

Phil Davis – Great. I will put you down.

Christina Titus – The next meeting will be December 4, 2014.

Meeting adjourned 1:20pm