**Drone Tech Advisory Committee Meeting**

April, 2020

**Members online: FC:** Jay Seidel. **Professionals**: Sgt. Jason Morris (Corona Police Department), Steven Katz (Sky Ladder Drones), Emily Katzan (Drone Angel), Eric Ortorski (OC Public Works), Desi Ekstein (On the Go Video), Josh Friedman (One Zero Media), Sgt. Brandon Clyde (Fullerton Police Department), Adam Jones (ABC), Mike Fortin (Cinedrones).

The following questions and topics were discussed by committee members during the stay-at-home orders.

The mission plan is that the courses and programs have been established in the Fullerton Drone Lab to train people with skills needed by utilizing drone technology. The three areas identified in the drone tech program are piloting, application, and development.

The members approved. Friedman said, “This is on the right path for sure!! The only thing that I can see being added to this language is ‘innovation’”.

Student outcomes were discussed and supported as stated in current curriculum.

**Courses**

The members support the current course offerings.

“The Drone Tech program looks great!” Ekstein said.  Friedman added that he really likes TECH 158 as a unique class and added that the program makes sure that the information is fluid enough to apply to whatever FAA guidelines there are in the future.

**Proposed courses include:**

*TECH 160 Infrared Thermography   
TECH 165 Aerial Mapping and Photogrammetry*

*PHOT 275 Drone Photography*

*CRTV 185 Drone Cinematography*

*TECH 260 LiDar Data Processing*

*TECH 290 Internship*

***Geography/GIS courses proposed***

*Geospatial Remote Sensing and Drone Data Processing*

***Oceanography/Earth Science/Construction purposed***

*Drone ROV Operations and Applications – ROVs and pipe crawlers*

***Administration of Justice Courses proposed (1-unit each)***

*Accident Reconstruction*

*Night Operations*

*Search & Rescue*

*Tactical sUAV operations*

***DEVELOPMENT***

*Drone Technician Level 1 – (Repair technician training)*

***PILOTING***

*Drone Industry Entrepreneurship – (Collaboration with the Business Department, includes business and marketing courses)*

The advisory committee members agree that these courses are beneficial and encourage certification or degrees in these areas to help encourage more students to take them and allow them training. Further, Freidman added that classes could be scheduled to allow drone students to take as many as possible and even work in a bit as an unofficial cohort.

They felt the submersible training will help expand the offerings at FC and make the program stand out as unique.

Ortorski said that the mapping courses are **vital** and should look to collaborate with GIS/Geography departments. Further, he suggested a continued collaboration with Flir on the thermal imaging course and possible certificate. This “collaboration will strengthen such an essential class.” He suggested holding off on the LiDar class until the others are developed and then making it an advanced class.

Morris liked and supported the Administration of Justice courses.

He said that the Night operations class should be interesting because of the need for lights or FLIR sensors.  “There is definitely a need to prepare for this,” he said. He also added that the tactical UAS operations lean heavily on indoor flying and lighting becomes an issue as well as the dreaded "ATTI" mode.” He said that Indoor flying is probably the most stressful thing they do at this point in time,” and that it would be great if students can gain practice flying indoors.

Ortorski suggested collaborating with OC Sheriffs Department and OC Parks for training on Search and Rescue.

**Collaborations**

The current collaborations with the CSULB Shark Lab, OC Water District, BNB Constructions and others provide a great opportunity. Further collaborations were discussed and encouraged.

**Training/Certification**

Training standards and certification were discussed. The members said it is important to have standards and beneficial for students to gain certification. They encouraged Fullerton College to gain various industry and FAA certifications as a training facility.

“They are extremely beneficial in our industry and I do see it as our industry future training needs. I particularly like the AUVSI training,” Ekstein said.

Certification for FC through AUVSI was strongly encouraged.

**Equipment Needs**

New equipment and drone purchases were discussed.

*(2) Autel Evo 2 (Great Idea with upcoming regulations if the worst happens.)*

*DJI Matrice 600 (Great for heavy cinematography and LiDAR payloads.)*

*(2) Phantom 4 v2 (Split this and get 1 v2 and P4 RTK for surveying.)*

*Freeflysystems Alta X (Very nice!)*

Pixhawk and Loki hardware systems were also suggested.

Applications like Adobe suite, Pix4D and ArcGis were said to be essential.

Next meeting schedule for 2021