Development of a Graduate Technology Project to Teach Advanced Skills Through the Design of a Regional Vaccination Hub

Jason Lee Davis, PhD
Associate Professor &
Coordinator, Technology Management Graduate Programs
Department of Engineering & Technology
Texas A&M University-Commerce
Commerce, Texas

TEXAS A&M UNIVERSITY
COMMERCE

Technology Management M.S. Program

TMGT Master of Science Degree Program

- Fully on-line delivery of major courses
- 36 semester credit hours (SCH)
  - 24 SCH Core, including research and practicum courses.
  - 12 SCH Elective block
- Eight-week sub-terms (Core, except practicum)

Technology Management M.S. Program

Curriculum Revisions implemented AY 2020-2021 program core and course-level modifications

- Split existing Project Management course into two separate courses (Harold Kerzner's *Project Management* [10th ed., 2009] text used in both courses)
  - TMGT 514 - Engineering & Technology Project Management (Fall, 2nd eight-week sub-term)
    - Planning, Network Scheduling, Metrics, Trade-off Analysis, Learning Curves, Contract Management.
  - TMGT 515 - Project Management Tools & Techniques (Spring, 2nd eight-week sub-term)
    - Pricing & Estimating, Cost Control, Risk Management, Quality Management.

TMGT 515 - Project Management Tools & Techniques

Newly created course to expand on treatment of topics extracted from original Project Management course.

- Cover: Pricing & Estimating, Cost Control, Risk Management, & Quality Management
- Task: Develop new instructional materials and activities aligning with course's specified Student Learning Outcomes (SLOs).
  (Some limited content was available for extraction from original PM course.)
- Project: Program emphasizes experiential learning through the incorporation of case studies and practical, real-world, and engaging project activities.

Course Project - Regional Vaccination Hub model

Key project goals…

- Engage and challenge students with a timely and relevant activity.
- Provide opportunities for students to conduct relevant research and apply findings to a practical scenario.
- Single, staged project allowing students to progressively work through the course topics in a logical and cohesive process.
- Incorporate activities allowing students to improve proficiency in using advanced modes of electronic communication.
- Bigger picture: Explore practicality of a theoretical model for the establishment of replicable, rapidly deployable, non-permanent, emergency response facilities. "Proof-of-Concept"

Course Project - Regional Vaccination Hub model

Conceptual Vaccination Hub model

- Inspiration: Real-time observation of the challenges and successes of various entities' efforts to quickly establish facilities for high-volume, mass vaccination administration in response to the active Coronavirus Pandemic.
- Observation: Many facilities, utilized out of urgent necessity, were not intended or designed for such activity and their availability could be limited or impractical for longer-term utilization. (Churches, academic campuses, athletic facilities, etc.)

Course Project - Regional Vaccination Hub model

Concept Premise

- Vision: Quickly mobilize to provide a functional hub facility enabling high volume vaccination services to be provided over a finite period without occupying existing venues and preempting normal activities while also creating minimal disruption to the neighboring communities. Rapidly remove facility components and return site to its previous, or better, condition upon decommissioning.

Course Project - Regional Vaccination Hub model

Model/Project Facility Criteria

- Site located to maximize convenience for those served and minimize impact on surrounding communities.
- Utilize presently available real estate of adequate size and configuration.
- Provide appropriate shelter for in-car vaccination and support areas using semi-permanent or temporary structures.
- Utilize structures that can be quickly installed and removed without adverse impact on the property.
- Design for a two-year baseline operation with the possibility of incremental extensions.
- Replicable across many regions.

Course Project - Regional Vaccination Hub model

Conceptual Hub model replicability/portability

- Maximize portability of model across varying geographical regions.
  A portion of an established Disaster District on the periphery of the Dallas/Ft. Worth Metroplex designated by the Texas Division of Emergency Management (TDEM) as 4B was strategically selected as the assigned region in the simulation due to the diversity and varying population densities found within the region.

Course Project - Regional Vaccination Hub model

Project Assignment/Scenario

- Student's role is that of lead Project Director representing a full-service commercial production company that is collaborating with federal and state emergency management organizations through a Public-Private-Partnership agreement.
- Project Director (student) is the contact for the commercial entity and responsible for providing all required materials and information to the public entities.

Course Project - Regional Vaccination Hub model

Project Phases
Assignment deliverables align with course topics.
Audience is identified as the agencies' stakeholders.

- Site Design Specifications – Milestone Report
- Site Selection – Milestone Report
- Facility Structures – Milestone Report
- Project Presentation – Video
  - Project overview
  - Life Cycle Cost Analysis
  - Risk Analysis
  - + Develop proficiency in utilizing advanced modes of multimedia communication.

Course Project - Regional Vaccination Hub model

Project Conclusion

- Students participate in a self/peer evaluation activity focusing on the presentation video to provide exposure to a variety of creative approaches to the challenge presented and allow them to reflect on and critique their own experience.

Course Project - Regional Vaccination Hub model

Observations

- Need for greater emphasis and clarity in defining the required parameters of the project in the assignment.
- Some solutions were developed and presented that supported the feasibility of the conceptual framework of the Hub model.
- Facility plans proposed suggest that this conceptual model for a Regional Vaccination Hub warrants further investigation.

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Thank you!

- Presentation and Project Materials: http://ATMAE21.JDavis.us
- Contact:
  Jason Lee Davis, PhD
  Associate Professor
  Jason.Davis@tamuc.edu
- Questions?