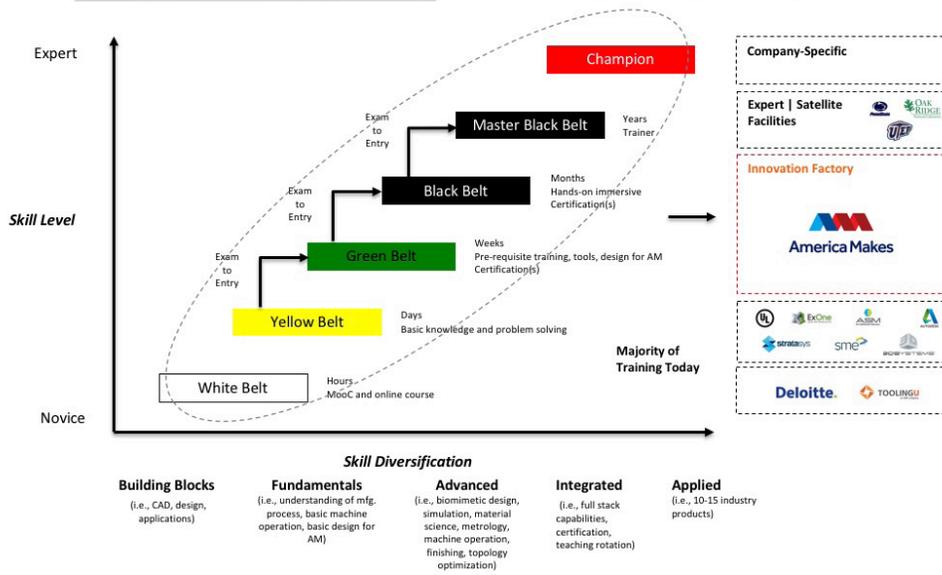


# DoD ACADEMI Expansion Initiative

## Six Sigma Analogy of Additive Manufacturing Training Offerings



The ACADEMI expansion project is addressing the DoD's need for developing advanced level engineers and technicians trained to leverage the benefits of AM by applying Design for Additive Manufacturing methods and tools.

### PROBLEM

The Advanced Curriculum in Additive Design, Engineering and Manufacturing Innovation (ACADEMI) is a collaboration between America Makes, The Lanterman Group, and other members to help speed the transfer of business and technical knowledge for additive manufacturing (AM) technologies to industry.

The Department of Defense needs to attract, inspire, and develop exceptional STEM talent across the education continuum to enrich their current and future DoD workforce to meet defense technological challenges, including advanced manufacturing technologies. This training project is being used to enhance the current DoD advanced manufacturing education portfolio to leverage the benefits of applying the "Design for Additive Manufacturing" methods and techniques for meeting mission specific needs and requirements.

### OBJECTIVE

The objective of this project is to modify and expand the existing course offering for the ACADEMI program around DoD identified gaps in its advanced manufacturing education portfolio, specifically by working with other Manufacturing USA Institutes and DoD partners, including the U.S. Army, U.S. Department of Navy, OSD Systems Engineering, and Defense Logistics Agency. The expanded curriculum is to be offered as continuing education and on-the-job training for these DoD partners. The target audience for this training includes design engineers, manufacturing engineers, and material science engineers who desire to learn skills from a holistic and integrated set of additive manufacturing disciplines.



AMERICA MAKES  
TECHNOLOGY  
DEVELOPMENT  
ROADMAP

This project aligns to:



DESIGN

## TECHNICAL APPROACH

The team plans to use the following four step process to design, develop, deliver, and assess the expanded ACADEMI program for the DoD:

**DESIGN** – Analyze current course offerings and map those to the DoD stakeholder requirements and needs. Analysis to inform the content that is necessary to be developed.

**DEVELOPMENT** – Leverage existing curriculum and learning content and construct new content as appropriate to meet the DoD stakeholder training needs in the Design for Additive Manufacturing space.

**DELIVERY** – Conduct two classes, delivered as separate training events with the intended audience of DoD stakeholder students. Coordinate with DoD partners to identify the specific DoD communities that are to be served by the ACADEMI Expansion Initiative.

**ASSESSMENT** – Track student progress and assess the learning effectiveness in the course, as well as deliver a final report detailing these findings. Content and intellectual property developed in the course of the program to be made available to America Makes members.

## PROJECT START / END DATE

May 2018 - March 2019

## EXPECTED DELIVERABLES

- Needs Analysis Report – A systematic investigation of training needs of key DoD stakeholder organizations
- Course Syllabus – A document describing course objectives and intended outcomes
- Course Content – Lectures, presentations, and student exercises
- Two Scheduled Training Events – Instructor-led AM training course delivered at the America Makes Innovation Factory or America Makes partner location
- Final Report

## FUNDING

**\$517K total project budget**

## PROJECT PARTICIPANTS

### Project Principal:

The Lanterman Group

### Public Participants:

U.S. Department of Defense

### 2018 DoD ACADEMI Expansion Initiative

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