

Self-Standing Certificate in *Additive Manufacturing*

The proposed self-standing certificate in **Additive Manufacturing** has the **goal** of preparing students to have comprehensive understanding of 3D printing for their roles in advanced manufacturing industry and management. This certificate offered by the School of Engineering through the NJ Advanced Manufacturing Institute (NJAMI) will offer comprehensive overview of many different AM technologies from fundamental science to applications.

Admission Requirements:

The admission requirements for the certificate program are:

- BS degree in STEM field.
- GPA of 3.0 or above (Those with slightly lower GPAs but with three or more years of industry experience may also be considered).

Curriculum:

The certificate will offer a rigorous and in-depth exposure to the broad set of core topics required in Additive Manufacturing through a 12-credit sequence (3 required courses and 1 elective course). We anticipate that most working professionals will take one 3-credit course per semester, and thus take 4 semesters to complete the certificate. However, the timetable for completion will be flexible and depend on the student's schedule.

Required Course 1	Required Course 2	Required Course 3	Elective Course
Additive Manufacturing: Fundamentals & Applications (16:650:531) [3 credits]	Optimal Design (16:650:524) [3 credits]	Mechanics of Advanced Manufacturing (16:650:569) [3 credits]	See below [3 credits]

Manufacturing Elective Courses: Mechanics of Materials (16:650:550), Manufacturing Processes and Control (16:540:572), Advanced Manufacturing Processes (16:540:573), Advanced Powder Processing I (16:635:501), Supply Chain Engineering (16:540:520), Data Analytics (16:540:507), Computational Methods (16:540:540), Pharmaceutical Materials Engineering (16:155:541), Polymer Science and Engineering I (16:155:552), Polymer Science and Engineering II (16:125:506).