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UNH Uses 3D Printers For Medical Face Shields and Converts Gym for COVID-19 Care

Thursday, April 2, 2020

(HTTPS://WWW.UNH.EDU/UNHTODAY/NEWS/2020/04/02/unh-uses-3d-printers-medical-face-shields-and-converts-gym-covid-19-care)
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DURHAM, N.H.— In an effort to support healthcare facilities in surrounding communities and neighboring states, the University of the New Hampshire has fired up 3D printers, usually used as teaching tools, to help make much needed medical parts as well as prepared its recreation facility to serve as a potential overflow space for hospitals focusing on care for critically ill COVID-19 patients.

UNH has shifted into production mode switching over research 3D printers to manufacture plastic headbands that are being used to assemble vital medical face shields worn by healthcare workers. Over a dozen 3D printers have already made more than 300 of the essential headbands that go around the forehead and hold the clear plastic face shield in place.

“Everyone at UNH involved is really proud to be a part of this effort,” said Shawn Banker, director of UNH’s University Instrumentation Center. “In the midst of all that is going on, it feels very positive to be able to use our resources to help make something that is desperately needed and will aid the doctors and nurses on the front lines treating patients with the coronavirus. It means a lot to everyone.”

Since students, faculty and researchers are working remotely, along with some printers on the Durham and Manchester campuses, many 3D printers were moved to home offices and garages to help with the cause. At the present, there are 15 printers being operated by eight UNH staff as well as one UNH alum who are all actively making parts. They are producing about 40 to 50 headbands a day with the hope of increasing that number with more printers.

The UNH printing effort is being coordinated through the University Instrumentation Center which responded to a request from Portsmouth Naval Shipyard, in Kittery, Maine. A team at the shipyard, which is also printing 3D parts, is attaching the headbands to shields and distributing the assembled masks to seacoast area hospitals and medical facilities in New Hampshire, Maine and Massachusetts and the Town of Kittery in Maine.



HEADBANDS MADE WITH 3D PRINTERS

UNH's Hamel Recreation Center has been converted to help with medical needs and used as a potential overflow and quarantine facility in preparation of an anticipated surge in COVID-19 cases. At the request of Governor Chris Sununu & N.H. Department of Health and Human Services, and in partnership with the N.H. National Guard, the gym at the center was transformed to accommodate 250 patients. The space will be used for patients who have already had medical care at a local hospital but need a few more recovery days before going home, freeing up hospital beds. UNH is also offering resources in support of drive-thru UNH Dining to provide meals to those on campus.

UNH has donated more than 45,000 pairs of gloves, nearly 11,000 surgical masks, 216 protective gowns, 4,800 N-95 respirators and 38 Tyvek suits and donated the personal protective equipment (PPE) to health care facilities. Laboratory equipment is being made available to medical personnel as they work to combat the virus, particularly with regard to ramping up the state's testing capacity.

UNH's University Instrumentation Center (UIC) supports the research, teaching, and engagement missions of UNH by providing access to the best analytical instruments, scientists, and engineers.

Some of the raw materials used for the 3D printer operating in the UNH Innovation Makerspace were purchased with a donation from the Patten Family Foundation.

The University of New Hampshire (<https://www.unh.edu/>) inspires innovation and transforms lives in our state, nation, and world. More than 16,000 students from all 50 states and 71 countries engage with an award-winning faculty in top-ranked programs in business, engineering, law, health and human services, liberal arts and the sciences across more than 200 programs of study. As one of the nation's highest-performing research universities, UNH partners with NASA, NOAA, NSF and NIH, and receives more than \$110 million in competitive external funding every year to further explore and define the frontiers of land, sea and space.

VIDEO FOR DOWNLOAD

LINK: <https://youtu.be/0FKy8ztIjK8> (<https://youtu.be/0FKy8ztIjK8>)

Caption: 3D printers at the University of New Hampshire are helping produce headbands used in medical face shields worn by doctors and nurses on the front lines of the coronavirus pandemic.

Credit: UNH

NOTE: Video without graphics: <https://unh.box.com/s/24bwuin634pwbyblee02fi9io449wpug> (<https://unh.box.com/s/24bwuin634pwbyblee02fi9io449wpug>)

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Caption: Time lapse video of the University of New Hampshire's Hamel Recreation Center being converted to accommodate 250 patients recovering from the COVID-19 virus.

Credit: UNH

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