

**State University System
Education and General
2022-2023 Legislative Budget Request
Form I**

University(s):	University of North Florida
Request Title:	UNF MedNexus Expansion
Date Request Approved by University Board of Trustees:	Pending July 15, 2021
Recurring Funds Requested:	1,005,000
Non-Recurring Funds Requested:	1,800,000
Total Funds Requested:	2,805,000
Please check the request type below:	
Shared Services/System-Wide Request	<input type="checkbox"/>
Unique Request	<input checked="" type="checkbox"/>

- I. Purpose** – 1. Describe the overall purpose of the plan, specific goal(s) and metrics, specific activities that will help achieve the goal(s), and how these goals and initiatives align with strategic priorities and the 2021 University Accountability Plan established by your institution (include whether this is a new or expanded service/program). If expanded, what has been accomplished with the current service/program? 2. Describe any projected impact on academic programs, student enrollments, and student services. University of Distinction proposals should also address the requirements outlined in the separate guidance document.

The UNF plan is a direct response to Florida’s critical healthcare staffing shortage as well as Florida’s critical new talent and new medical technology needs. The plan is developed in consideration of several essential factors: (1) healthcare has been and remains a strategic priority of the Florida State University System (SUS); (2) there exists a severe shortage of trained, healthcare professionals in Florida; (3) the shortage of trained, healthcare professionals in Florida is expected to become more acute in future years; (4) the global COVID pandemic has placed significant strain on healthcare staffing; (5) NE Florida remains an area of healthcare distinction for our state; (6) UNF remains an SUS institution of distinction both in NE Florida and nationally for healthcare education, training, and research collaboration; and (7) UNF possesses the crucial education and research infrastructure through the creation of the UNF MedNexus to serve as the innovation hub for healthcare talent creation and medical technology advancement in NE Florida. In 2020, the Florida Legislature allocated \$6 million in funding to establish the UNF MedNexus with a tripartite focus on talent creation (with an initial focus on nursing), thought leadership, and innovation in medical technology.

As the nation’s first comprehensive, university-based medical nexus, the UNF MedNexus has achieved the following milestones since receipt of state funding on July 1, 2020:

- Awarded more than \$2,000,000 in nursing scholarships;
- Added seven (7) critically needed UNF faculty hires in nursing, including four (4) assistant professors of nursing (one of whom also serves as the nursing director in Palm Coast, FL), two (2) adjunct professors of nursing, and one (1) nursing instructor;
- Signed academic partnership agreements for 2+2 (ASN to BSN degree programs) and 4+1 (BSN to MSN) pathway programs in nursing with key institutions in the Florida College System (FCS), including Daytona State College, Florida State College-Jacksonville (FSCJ), and St. Johns River College;
- Created the “Health Honors Direct” program (undergraduate to graduate degrees to jobs) to attract, retain, and graduate future nurses through the establishment of cohorts of UNF MedNexus Scholars at the undergraduate level and UNF MedNexus Fellows at the graduate level;
- Signed an intercollegiate facility agreement with FSCJ to provide expanded instructional and simulation space to train the next generation of healthcare providers;
- Began renovations at the FSCJ facility for the creation of the UNF MedNexus Healthcare Simulation Center which will expand the current number of simulation labs at UNF from one (1) simulation lab to eight (8) simulation labs and to further create UNF’s first home health lab;
- Partnered with the City of Palm Coast, Florida and AdventHealth to create a nursing facility and simulation lab to train nurses in Palm Coast;
- Admitted the first, undergraduate nursing cohort in Palm Coast that will begin selected in-person classes in August 2021;
- Doubled the initial, projected size of the Palm Coast nursing cohort from 25 to 50 students to meet the increased demand for trained nurses in that region;
- Procured and installed the Maldi Mass Spectrometer for early human tissue diagnostics into the MedTech Innovation Lab that was created through the UNF MedNexus; and
- Partnered with the Flagler County School System and the UNF Center for Entrepreneurship and Innovation to promote careers and innovation in healthcare among high school students via the Flagler County High School Medical Innovation Challenge scheduled for November 2021.

Situation Analysis – Staffing

The Florida Center for Nursing predicts that by 2025 the state of Florida will face a shortage of registered nurses that could reduce patient access to care and adversely impact the healthcare system in Florida. As the general population is aging, so are our nurses. The Florida Center for Nursing estimates that more than 40% of nurses are within the baby boomer demographic and will be retiring in the next 10 years. These data plus the fact that Florida ranks at just #24 among states for number of nurses per 1,000 population (*Nurse Journal* 2021) indicate that Florida is facing and will continue to experience an acute shortage of and heightened demand for nurses in the years to come. The American Nursing Association estimates, for example, that one (1) million nurses will retire nationwide between now and 2030. The U.S. Bureau of Labor Statistics, in turn, estimates that employment opportunities for registered nurses will grow seven (7)

percent from 2019 to 2029, faster than the average for all other occupations. The growing demand for nurses has been argued as being the direct result of:

- Increased demand for healthcare personnel to care for an aging population;
- More nurses needed to educate and care for patients with chronic conditions;
- Growing needs and responsibilities among nurses to attend to patients in long-term care facilities and home healthcare; and
- Greater reliance in healthcare on outpatient care centers and ambulatory care settings for same-day chemotherapy, rehabilitation, and other surgeries, treatments, and procedures that previously were relegated to only hospitals.

Situation Analysis – Innovation

Remote health, home health and digital monitoring and diagnostics are seeing rapid growth with the pace of growth accelerated as a result of the COVID pandemic. The increased implementation of technology can both improve healthcare delivery and ease workforce constraints through efficiencies in the delivery of healthcare services. A recent study by Russell Reynolds (“Embracing Change: The Healthcare Industry Focuses on New Growth Drivers and Leadership Requirements”) highlights a broader industry convergence around key trends and growth drivers in healthcare that include medical innovation and healthcare management. The emphasis on innovation and cutting-edge technology highlights the more specific needs for not only embracing new talent but for (1) providing healthcare members with new talents around new technologies and (2) ensuring new talents are acquired at a pace commensurate with the increasingly rapid pace of innovation that now characterizes many medical fields. More specifically still, medtech, digital health, and especially medical 3D printing are rapidly evolving fields in healthcare. According to a study by SmarTech Analysis, the market for medical 3D printing is expected to increase more than five-fold from \$1.25B in 2019 to \$6.08B in 2027. This projected growth in medical 3D printing is being driven by the widespread and increasing application of 3D printing to regenerative medicine (e.g., bioprinting used to create living human cells, tissue, or organs); precision/personalized surgery and medicines (e.g., both patient-specific pharmaceuticals at a pharmacy and industrial scale and patient-specific models of organs and surgical tools); orthopedic implants (e.g., surgically replaced joints and bones); and surgical tool and device development.

Inarguably, the applications for medical 3D printing are growing in breadth of applications and relevance to medical professions. The talent necessary to capture the full benefits of medical 3D printing are too becoming increasingly broad if not diverse with multidisciplinary 3D teams at the Mayo Clinic, for example, comprised of radiologists, surgeons, biomedical engineers, technicians, and students that could also include nursing students. This greater breadth of application and its impact on the scope of needed talent point to the need for greater expertise, increased research, and new talent creation focused on medical 3D printing. In other words, as the number of medical 3D printing applications and providers continues to grow, key challenges to the field reside in supporting the technology’s evolution and application. Primary research coupled with new talent development will be crucial to new medical approaches being developed, new forms of patient care being implemented, and new skill sets mandated to staff the healthcare team of the future. The legislatively funded UNF MedNexus, in turn, is appropriately positioned to respond to these challenges as demonstrated by (1) its

expertise in new talent development in collaboration with UNF colleges and (2) its capabilities to be at the forefront of medical 3D printing with the creation of the MedTech Innovation Lab and its collaboration with UNF's current on-campus facilities and partnerships with Johnson & Johnson Biomedical 3D Printing.

The purpose of this LBR is to request State funding to:

1. Increase the number of nursing graduates

- Specifically, increase the number of UNF MedNexus nursing graduates from the UNF Brooks College of Health; and

2. Increase research collaborations and UNF student training in medical 3D printing

- Specifically, expand the MedTech Innovation Lab and UNF's partnership with Johnson & Johnson Biomedical 3D Printing to further medical 3D printing research and train UNF healthcare students in medical 3D printing applications.

Regional Distinction—NE Florida is a Healthcare Hub:

NE Florida has become a mecca for outstanding healthcare. The healthcare industry in NE Florida—which encompasses the city of Jacksonville and Duval County where UNF is located plus municipalities located in Baker, Clay, Flagler, Nassau, Putnam, and St. Johns and surrounding counties—highlights the expansive nature of the quality and breadth of healthcare providers and healthcare-related entities in the region. They include in alphabetical order such renowned providers as AdventHealth, Ascension St. Vincent's Health Center, Baptist Health, Brooks Rehabilitation Hospital, Flagler Hospital, Mayo Clinic, MD Anderson, and Memorial Hospital, among others. In addition, an emphasis on attracting healthcare providers and growing healthcare services are priorities in the strategic plans of the respective cities in Northeast Florida.

UNF Core Strength in Healthcare Education:

UNF offers multiple, high quality programs across a wide array of health and health-related disciplines. UNF indicants of excellence and expertise in healthcare fields include the following: (1) UNF's DNP program is ranked #1 in the state of Florida, (2) UNF's school of nursing is recognized as one of six programs nationally for best practice in incorporating population health into the curriculum, (3) UNF's school of nursing graduates have a licensure (NCLEX) pass rate consistently above 95%, (4) UNF's online doctoral degree program is ranked #11 nationally as Most Popular Online Nursing Doctoral Degree by NursingDegreeSearch.com; and (5) UNF's nursing program is ranked #69 nationally as Best Value Nursing School by CollegeFactual.com. In addition, UNF's nursing program has existing collaborative research agreements with Florida Blue, Johnson & Johnson, and the Mayo Clinic; and UNF has been accelerating competency in medically associated STEM programs that include advanced

manufacturing, 3D biomedical printing, and the newly added Maldi Mass Spectrometry for early diagnostics research funded by the Florida Legislature in 2020.

The 3D printing expansion of the UNF MedNexus MedTech Innovation Lab was included in UNF's original LBR presented to and approved by the Board of Governors in 2019. The UNF MedNexus LBR was subsequently divided into multiple phases. Phase I received funding in the 2020 legislative session. This lab was shifted to Phase II. Universities of Distinction requests did not receive funding in the 2021 legislative session.

Fostering an Innovation Economy:

UNF Center for Entrepreneurship and Innovation: The 2020-21 cohort of entrepreneurial participants in the Center's new venture program were focused solely on healthcare-related endeavors, further integrating UNF MedNexus throughout UNF as well as the healthcare and business community. UNF MedNexus collaboration with the UNF Center for Entrepreneurship and Innovation and the Flagler County School System are critical to UNF's broader efforts to address future healthcare shortages by promoting interest in healthcare careers among Florida high school students.

I. Return on Investment - *Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. Similarly, if the issue focuses on expanding access to academic programs or student services, indicate the current and expected outcomes. University of Distinction proposals should also address the requirements outlined in the separate guidance document.*

Nursing: The proposed recurring investment in nursing faculty and staff will result in the addition of at least 25 undergraduate BSN nursing students and 50 graduate MSN nursing students to begin courses Spring 2023. To maintain the renowned quality of nursing graduates from UNF's Brooks College of Health, the proposed recurring investment in financial aid will be used as scholarships to attract, retain, and graduate the next generation of talented healthcare professionals in nursing. No nonrecurring funds are requested for nursing.

Medical 3D Printing: Nonrecurring funds are requested for the expansion of the MedTech Innovation Lab and they will be used to equip the lab with medical grade 3D printers capable of printing both metal and plastic components. Students will be trained to use this latest technology and will have the opportunity to work with UNF MedNexus innovation partners in research projects, testing, process development, and skills training. Expansion of the lab will lead to pathways and jobs in medicine and will also bolster specialized biomedical coursework in UNF's advanced manufacturing, biology, electrical engineering, and mechanical engineering degree programs. One staff position for lab instruction and oversight will be added with proposed recurring funding.

Metric	Current PBF 2021-22	With Additional 25 Nursing Grads & 50 MSN Grads	Needed for 10 pts
Pct. of bachelor's grads employed (\$25K+) and/or cont ed 1 yr after grad	72.7%	72.9%	72.8%
Median wages of bachelor's graduates employed full time	\$41,000	\$41,200	\$40,700
Net tuition and fees per 120 credit hours	\$8,100	\$8,090	\$9,000
Four-year graduation rate (if additional students are in FT FTIC cohort)	48.3%	49.0%	50%
Academic progress rate (if additional students are in FT FTIC cohort)	81.3%	81.5%	90%
Bachelor's degrees awarded in areas of strategic emphasis	57.0%	57.3%	50%
Graduate degrees awarded in areas of strategic emphasis	51.9%	54.6%	60%

II. Personnel – Describe personnel hiring and retention plans, making sure to connect both plans to initiative(s) and goal(s) described in section I. State the amount of faculty FTE and staff FTE and estimated funding amounts used for retention and new hires in each category. In describing faculty hires, provide overall hiring goals, including academic area(s) of expertise and anticipated hiring level (e.g. assistant professor, associate professor, full professor. Please describe how funds used for faculty or staff retention will help the institution achieve its stated goals. University of Distinction proposals should clearly note how anticipated hires or retained individuals will help the institution elevate a program or area to national or state excellence.

In support of nursing education, UNF is requesting the following lines in general nursing:

Full-time faculty	3
Part-time adjunct clinical faculty	9
Administrative	1

The full-time faculty positions will be for Assistant Professors teaching Pharmacology, Fundamentals, Medical-Surgical Nursing and Community. The requirement is a terminal degree in nursing, PhD, EdD or DNP. The part-time faculty positions will be critical for adjunct clinical faculty instruction in the hospitals. These faculty will also support UNF's 4+1 BSN to MSN degree program partnerships with Florida College System institutions. The final administrative position will perform duties associated with coordinating admissions, clinical sites, and office duties. Both the full-time and part-time faculty hires will conduct classes at the undergraduate and graduate levels to serve the additional student in the respective programs. The faculty will also instruct prelicensure students in the clinical area. The goal is to retain this staff through the upcoming years for UNF to continue to grow its nursing programs and provide more nurses to the community. In addition, we will retain the assistant professor positions through tenure opportunities and salary increases.

Additionally, UNF is requesting a staff position to oversee 3D printing operations:

<u>Full-time instructor/lab manager</u>	<u>1</u>
---	----------

Total proposed hires

14

IV. Facilities *(If this issue requires an expansion or construction of a facility, please complete the following table.):*

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.				
2.				

2022-2023 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II
 (to be completed for each issue)

University:
Issue Title:

University of North Florida
MedNexus Nursing Expansion

	<u>RECURRING</u>	<u>NON- RECURRING</u>	<u>TOTAL</u>
<u>Positions</u>			
Faculty	3.00		
Other (A&P/USPS)	2.00		
	-----	-----	-----
Total	5.00	0.00	5.00
	=====	=====	=====
Salaries and Benefits	445,000.00	0.00	445,000.00
Other Personal Services	360,000.00	0.00	360,000.00
Expenses (3D Printers)	\$0	\$1,800,000	\$1,800,000
Operating Capital Outlay	\$0	\$0	\$0
Electronic Data Processing	\$0	\$0	\$0
Financial Aid (Scholarships)	\$200,000	\$0	\$200,000
Special Category (Specific)	\$0	\$0	\$0
	\$0	\$0	\$0
	\$0	\$0	\$0
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$1,005,000	\$1,800,000	\$2,805,000
	=====	=====	=====