UNIVERSITY OF CENTRAL FLORIDA

Executive Committee Meeting

Aug 4, 2020 3:00 PM - 4:30 PM EDT

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UNIVERSITY OF CENTRAL FLORIDA

Board of Trustees
Executive Committee
Virtual Meeting
August 4, 2020, 3:00-4:30 p.m.

Livestream:
https://ucf.webex.com/ucf/onstage/g.php?MTID=ebcca10b2f3f101efb326704bd86db039
Conference call number: 1-408-418-9388, access code: 132 786 3606#

AGENDA

1.	Call to order	Beverly Seay, *Chair, UCF Board of Trustees*
2.	Roll Call	Karen Monteleone, *Assistant Vice President, Board Relations*
3.	Minutes of the December 16, 2019 meeting	Chair Seay
4.	Reports	Chair Seay
	INFO-1	FY21 Executive Committee Annual Plan *Chair Seay*
5.	New Business	Chair Seay
	EXEC-1	Executive Committee Charter Amendments *Scott Cole, Vice President and General Counsel*
	INFO-2	Board Emerging Issues Update *Chair Seay*
	INFO-3	Revisions to Board Agenda Memoranda *Karen Monteleone*
	EXEC-2	UCF Legislative Budget Requests *Alexander Cartwright, President* *Michael D. Johnson, Interim Provost and Vice President for Academic Affairs*
6.	Adjournment	Chair Seay

UNIVERSITY OF CENTRAL FLORIDA

Board of Trustees
Executive Committee Meeting
December 16, 2019
President's Boardroom, Millican Hall

MINUTES

CALL TO ORDER

Chair Beverly Seay called the meeting to order at 1:30 p.m.

Committee members present: Vice Chair Alex Martins. Committee members Trustee Joseph Conte and Trustee Danny Gaekwad joined via teleconference after the call to order.
Committee members absent: Trustees Robert Garvy, John Sprouls and William Yeargin.

Trustees Bradley, Self and Walsh were also in attendance.
A quorum was confirmed.

MEETING MINUTES

The minutes of the October 22, 2019 Executive Committee meeting were approved as submitted.

NEW BUSINESS

Board Emerging Issues (INFO-1)

Chair Seay has requested proactive Trustee engagement in areas where the university has made a significant investment, is considering making a significant investment, or has faced challenges. She consulted with Interim President Thad Seymour to separate these areas into components of the UC*Forward* goal to strengthen operations. The emerging issues discussed were:

Organizational Alignment

- Communications and Marketing (Trustee Gray) – Faculty member Lindsey Neuberger has been assigned to assist Trustee Gray.
- DSO and Auxiliary Boards (Trustee Bradley)
- IT / Cybersecurity (Trustee Mills)

Allocation and Management of Resources

- Current Financial Standing and Internal Loans (Chair Seay)
- Enrollment Strategy* (Trustee Self - Replacing Trustee Garvy)
- Enterprise ERP Upgrade (Trustee Mills)
- New Budget Model (Vice Chair Martins)

Operational and Process Improvements

- Crisis Response Plan* (Trustee Sprouls – Replacing Trustee Lord)
- Contracts (Trustee Okaty – New Trustee Appointment)
- Real Estate and Space Utilization (Trustee McAlpin – New Trustee Appointment)
- Shared Services and Efficiencies (Trustee McAlpin – New Trustee Appointment)

Strategic Partnerships and Investments

1. BRIDG* (Trustee Walsh)
2. Stadium Infrastructure (Trustee Walsh)
3. UCF Health* (Trustee Conte)
4. UCF Global (Trustee Gaekwad)

**A Trustee has been previously appointed to items labeled with an asterisk. Additionally, staff-led task forces are already in place to address these issues and the outcome will require board action.*

Chair Seay noted that she requested faculty involvement in these issues based on their expertise. Chair Seay also said that trustees should direct questions regarding timelines and reporting guidelines to the Board Office. She said that the board staff will correlate these emerging issues with the challenges identified in the presidential search listening sessions.

Enrollment Data Analytics Update (INFO-2)

Chair Seay said that in the presidential search listening sessions, there was a great deal of feedback regarding enrollment and growth, and the search firm was receiving similar questions. Seay said in April 2019, Interim President Seymour and Provost Dooley created an Enrollment Strategy Task Force to evaluate and analyze UCF's current enrollment and develop a model that accounts for student and faculty success, regional needs, and state goals. Through the work of the task force, over the last eight months, data has been collected to support this effort and analysis.

Chair Seay invited Maribeth Ehasz, Vice President for Student Development and Enrollment Services and Paige Borden, Associate Provost and Chief Analytics Officer, Analytics and Integrated Planning, to deliver an update on enrollment data collected to date. She said today's discussion will help the Trustees to understand the issues to prepare for an understanding of the financial impact of enrollment strategies, which will be presented to the board at its February 20, 2020 meeting.

The committee had a robust discussion on previous enrollment plans and the goals of the current plan in process. Martins questioned why the financial data tied to enrollment has been challenging to receive. Kristie Harris, Associate Vice President of Financial Affairs, said her team is working on an internal analysis to determine this information. The information has been noted as essential to continue this research.

Trustees requested the following information be included in the next update:

- Seay requested that the enrollment issues and the goals of the analysis be clearly stated.
- Seay asked for transfer information to be included with the first time in college (FTIC) information, and that the difference between Direct Connect and other transfer students also be noted in that information.
- Seay requested the conversion rate or yield of students that are offered but decline enrollment be part of the enrollment analysis.
- Self requested that information from surveys sent to students that declined admission be shared.
- Self requested information on what happened to the transfer cohort students that did not graduate.

Ehasz asked the committee to provide them with any additional requests for information to add to the material.

Borden provided an update on the American Council of Trustees and Alumni (ACTA) information.

ADJOURNMENT

Seay adjourned the meeting at 2:58 p.m.

Reviewed by: _____ Date: _____
Beverly Seay, Chair UCF Board of Trustees

Respectfully submitted: _____ Date: _____
Janet Owen, Associate Corporate Secretary

ITEM: INFO - 1

UCF BOARD OF TRUSTEES
Executive Committee
August 4, 2020

Title: FY21 Executive Committee Annual Plan

Background:
In response to trustee feedback, the Board Office, in coordination with the President's Office and committee staff, have drafted a template for all committees to use in developing plans for strategic discussions, informational presentations, and actionable items that come before the committees on an annual basis. The draft template was presented to all committee chairs for their input and direction on strategic discussions to address in FY21. The committee chairs will present the plans during their respective committee meetings scheduled for August 12, 2020.

Chair Seay will present the Executive Committee's Annual Plan and open the floor for discussion and committee input.

Issues to be Considered:
If members of the committee have additional input for agenda items to be added to the annual plan.

Alternatives to Decision:
This item is being provided for information only.

Fiscal Impact and Source of Funding:
N/A

Recommended Action:
This item is being provided for information only.

Authority for Board of Trustees Action:
N/A

Contract Reviewed/Approved by General Counsel:
N/A

Committee Chair or Chair of the Board approval:
Chair Seay has approved adding this item to the agenda.

Submitted by: Karen Monteleone, Assistant Vice President, Board Relations

Supporting Documentation:
Attachment A: FY21 Executive Committee Annual Plan

Facilitators/Presenters:
Chair Seay
Karen Monteleone

UNIVERSITY OF CENTRAL FLORIDA

UCF Board of Trustees
Executive Committee Annual Plan

Fiscal Year 2021 (July 1, 2020 – June 30, 2021)

Last Updated: July 24, 2020

Mission Statement:

The University of Central Florida is a public multi-campus, metropolitan research university that stands for opportunity. The university anchors the Central Florida city-state in meeting its economic, cultural, intellectual, environmental and societal needs by providing high-quality, broad based education and experienced-based learning; pioneering scholarship and impactful research; enriched student development and leadership growth; and highly relevant continuing education and public service initiatives that address pressing local, state, national, and international issues in support of the global community.

Charter Summary:

Purpose: The general purpose of the **Executive Committee** is to foster cross-functional coordination and discussion as well as to act on matters that, in the opinion of the Board Chair, must be timely approved between regularly scheduled Board meetings.

Minimum Number of meetings:
As needed

Charter last amended: September 19, 2019

Minimum Number of members:
Board chair, standing committee chairs

Next charter review: August 4, 2020

2020-2021 Committee Priorities:

Align actions with approved goals: Ensure university actions align with the president's strategic goals approved by the Board of Trustees.

Emerging Issues Monitoring: BRIDG, UCF Health

Types of Agenda Items:

DRAFT

Currently, agenda items fall into three categories: Discussion, Information, and Motion.

Discussion: These items may include a specific theme that carries through several meetings. The chair develops these items with committee staff and presentations are structured to engage the Committee in strategic discussion.

Information: These items are brought before the Committee to educate, but also to engage the committee members in discussion that will set the background for a future action. Except for extenuating circumstances, the Committee should never be asked to act on a decision with significant fiscal or reputational impact without prior discussion as a full body.

Motion (Action): These items require committee approval as required by federal or state laws, external standards, Board of Governors' Regulations, Board policies, and/ or university regulations. These items require a motion and a vote, but approval is never assumed. Staff bring recommendations to the Committee, but the approval lies within the Committee's decision-making authority.

DRAFT

Executive Committee
Annual Plan Detail – FY21

Committee Meeting Date	Item Type	Agenda Item	Lead(s)
August 4, 2020	Information	FY21 Executive Committee Annual Plan	Seay
	Motion	Executive Committee Charter Amendments	Seay Cole
	Information	Board Emerging Issues Update	Seay
	Motion	Legislative Budget Request	Cartwright Johnson
	Information	Revisions to Board Agenda Memo	Monteleone
Committee Meeting Date	**Item Type**	**Agenda Item**	**Lead(s)**
January 2021	Discussion	Chair's Update	Seay
	Discussion	Mid-Year Annual Plan Assessment	Seay
	Information	President's FY21 Goals Update	Cartwright
	Information	Board Emerging Issues Update	Seay
Committee Meeting Date	**Item Type**	**Agenda Item**	**Lead(s)**
March 2021	Discussion	Chair's Update	Seay
	Discussion	President's FY21 Goals Update	Cartwright
	Discussion	Board Annual Retreat Planning	Seay Cartwright
	Information	Board Emerging Issues Update	Seay
Committee Meeting Date	**Item Type**	**Agenda Item**	**Lead(s)**
May 2021	Discussion	Chair's Update	Seay
	Discussion	End-of-year Annual Plan Assessment	Seay
	Discussion	President's FY21 Goals Update	Cartwright
	Information	Board Emerging Issues Update	Seay

DRAFT

ITEM: EXEC – 1

UCF BOARD OF TRUSTEES
Executive Committee
August 4, 2020

Title: Executive Committee Charter Amendments

Background:
In the September 19, 2019 Governance Committee meeting, the committee considered the approval of the Eighth Amended and Restated Bylaws of the Board of Trustees of the University of Central Florida. Under Executive Committee, section 6.3 of the Bylaws, it states "The Executive Committee may not take any of the following actions, for which only the board has the exclusive authority: appointment and dismissal of the president, approval of the president's employment agreement; sale or other disposition of assets; incurrence of debt; approval of new facilities; election of char and vice chair; approval of the annual capital and operations budgets; use of the institution's credit line; conferral of degrees; institution or elimination of new academic programs or colleges; and amendment of the bylaws.

Former Trustee William Self voiced concern that by listing the "institution or elimination of new academic programs or colleges" as an action that the Executive Committee may not take, implies that it is an action the Board could take even though historically the authority rests with the President and Provost.

It is recommended that "institution or elimination of new academic programs or colleges" in section 2.1(j) on the Executive Committee charter be replaced with "creation or termination of degree programs," which is language taken directly from the Delegation of Authority to the President.

The committee would also make the following recommendations to the Governance Committee:

- Update section 6.3 of the Eighth Amended and Restated Bylaws of the Board of Trustees of the University of Central Florida to reflect this change.
- Consider the concern about the authority between the Board and president over the "institution or elimination of new academic programs or colleges" in a future Delegation of Authority to the President discussion.

Additionally, the recommended charter amendments also include a staff liaison update and a change from a three-year charter review to an annual charter review.

Issues to be Considered:

Amend Executive Committee Charter section 2.1 (j) to "creation or termination of degree programs"

Recommend to the Governance Committee:
- Amend section 6.3 of the Eighth Amended and Restated Bylaws of the Board of Trustees of the University of Central Florida.
- Consider the concern about the authority between the Board and president over the "institution or elimination of new academic programs or colleges" in a future Delegation of Authority to the President discussion.

Alternatives to Decision:
Decline the proposed amendment to the charter or make alternative recommendations.

Fiscal Impact and Source of Funding:
N/A

Recommended Action:
Approve the proposed amendments to the Executive Committee Charter.

Authority for Board of Trustees Action:
Board of Governors Regulation 1.001

Contract Reviewed/Approved by General Counsel:
N/A

Committee Chair or Chair of the Board approval:
Chair Seay has approved adding this item to the agenda.

Submitted by: Scott Cole, Vice President and General Counsel

Supporting Documentation:
Attachment A: Executive Committee Charter (redline)
Attachment B: First Amended and Restated Executive Committee Charter (clean copy)
Attachment C: Delegation of Authority to the President

Facilitators/Presenters:
Chair Seay
Scott Cole

UNIVERSITY OF CENTRAL FLORIDA

First Amended and Restated
Executive Committee Charter

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1. **Overall Purpose and Objectives**

   The Executive Committee ("Committee") is a standing committee of the University of Central Florida Board of Trustees. ("Board"). The general purpose of the committee is to foster cross-functional coordination and discussion as well as to act on matters that, in the opinion of the Board Chair, must be timely approved between regularly scheduled Board meetings.

2. **Authority**

   The board authorizes the committee to:

   2.1 Take action on behalf of the full Board between regularly scheduled Board meetings, except for the following, for which full board action is necessary:

   a. Appointment and dismissal of the president
   b. Final approval of the president's employment agreement
   c. Sale or other disposition of assets
   d. Incurrence of debt
   e. Election of chair and vice chair
   f. Approval of the annual budget
   g. Conferral of degrees
   h. Amendment of the bylaws
   i. Approval of new facilities
   ~~j. Institution or elimination of new academic programs~~ Creation or termination of degree programs

   2.2 Engage external consultants to assist in work of the Committee, with the approval of the president.

3. ~~Committee~~ **Membership**

3.1 The chair of the Board and the chairs of each standing committee shall be members of the Committee.

3.2 Members of the Committee will serve until their resignation or until they no longer serve as a committee chair.

4. **Meetings**

4.1 A majority of the Committee members ~~of the Committee~~ will constitute a quorum for the conduct of business. Action shall require a majority vote of Committee members present.

4.2 The Committee will maintain written minutes of its meetings.

5. **Staff**

~~4.3~~ 5.1 The Vice President for Government Relations and the Assistant Vice President for Board Relations will serve as the administrative liaisons to the Committee. ~~The Vice President~~ Staff will meet regularly and correspond with the chair of the Committee, and in consultation with the chair, prepare the agenda for meetings of the Committee.

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6. **Reporting Responsibilities**

~~5~~6.1 The Committee will, at the next regularly scheduled board meeting, report to the Board any action taken by the Committee.

~~5~~6.2 The Committee will promptly notify all board members of any matters within the purview of the Committee that might significantly impact the financial, legal, academic standing, or reputation of the university.

7. **Charter Review**

~~6~~7.1 The Committee will review its charter ~~every three years~~ annually and recommend to the Board any changes that the Committee deems necessary.

I HEREBY CERTIFY that the University of Central Florida Board of Trustees adopted this first amended and restated charter at its regularly scheduled meeting on ~~September 19, 2019~~ August 20, 2020.

Associate Corporate Secretary_____ Date
University of Central Florida Board of Trustees

Revision History:
9-19-2019

UNIVERSITY OF CENTRAL FLORIDA

First Amended and Restated
Executive Committee Charter

1. **Overall Purpose and Objectives**

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   The board authorizes the committee to:

   2.1 Take action on behalf of the full Board between regularly scheduled Board meetings, except for the following, for which full board action is necessary:

   a. Appointment and dismissal of the president
   b. Final approval of the president's employment agreement
   c. Sale or other disposition of assets
   d. Incurrence of debt
   e. Election of chair and vice chair
   f. Approval of the annual budget
   g. Conferral of degrees
   h. Amendment of the bylaws
   i. Approval of new facilities
   j. Creation or termination of degree programs

   2.2 Engage external consultants to assist in work of the Committee, with the approval of the president.

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   3.1 The chair of the Board and the chairs of each standing committee shall be members of the Committee.

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5.1 The Vice President for Government Relations and the Assistant Vice President for Board Relations will serve as the administrative liaisons to the Committee. Staff will meet regularly and correspond with the chair of the Committee, and in consultation with the chair, prepare the agenda for meetings of the Committee.

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6.2 The Committee will promptly notify all board members of any matters within the purview of the Committee that might significantly impact the financial, legal, academic standing, or reputation of the university.

7. **Charter Review**

7.1 The Committee will review its charter annually and recommend to the Board any changes that the Committee deems necessary.

I HEREBY CERTIFY that the University of Central Florida Board of Trustees adopted this second amended and restated charter at its regularly scheduled meeting on August 20, 2020.

Associate Corporate Secretary Date
University of Central Florida Board of Trustees

Revision History:
9-19-2019

UNIVERSITY OF CENTRAL FLORIDA
BOARD OF TRUSTEES
POLICY

Delegation of Authority to the President

POLICY STATEMENT

Article IX, Section 7 of the Florida Constitution provides that the Board of Governors shall establish the powers and duties of the university boards of trustees. Board of Governors Regulation 1.001, copy attached as Exhibit A, delegates those powers and duties to the boards of trustees.

The Board of Trustees desires to further delegate certain of its powers and duties to the President as more particularly described below. Any power or duty delegated by the Board to the President may be rescinded at any time by majority vote of the Board. Except as otherwise provided herein, the President may further delegate his or her powers and duties to employees of the University in accordance with the University's Policy on Delegation of Authority.

DEFINITIONS

Affiliated Entities: Direct support organizations, practice plan corporations, or self-insurance trust funds of the University of Central Florida.

Board: UCF Board of Trustees

BOG: Florida Board of Governors

President: President of UCF

UCF or University: University of Central Florida

PROCEDURES:

Except as provided herein, the Board delegates to the President all usual and customary powers of a President to administer the day to day operations of the University. This includes the powers and duties described in Board of Governors Regulation 1.001 and those reasonably implied therefrom, which are not required to be directly performed by the Board.

The President's authority also includes the following:

1. Propose regulations for approval by the Board.
2. Govern Traffic on the grounds of the University.
3. Close and/or suspend operations of the campus as deemed necessary.
4. Set the agenda for Board meetings in consultation with the Chair of the Board.
5. Establish the University calendar.
6. Administer the personnel program subject to Board and BOG policies and regulations.
7. Administer University travel in accordance with Section 112.061, Florida Statutes.
8. Administer the collective bargaining process.
9. Administer the financial activities of the university including proposing university budgets and managing university revenues and expenditures.
10. Administer the purchasing and construction programs and act as custodian for university property.
11. Execute contracts on behalf of the Board.
12. Oversee the research activities of the University, including managing the intellectual property of the university.
13. Oversee the philanthropic activities of the University.
14. Perform such other duties related to the above not specifically retained by the Board.

Items requiring specific approval of the Board:

1. All duties required to be undertaken directly by the Board pursuant to BOG Regulation 1.001.
2. Annual financial commitment, obligation, or contingent risk of five million dollars or .5% percent of the University budget, whichever amount is smaller, other than grants, contracts, and other agreements for research, sponsored training, clinical trials, patents and licensing, technology transfer, and research compliance.
3. Contractual obligation of more than five (5) years' duration and an aggregate net value of five million or more dollars, options, renewals, extensions, or amendments thereto, other than grants, contracts, and other agreements for research, sponsored training, clinical trials, patents and licensing, technology transfer, and research compliance.
4. Changes requiring SACS substantive-change approval.
5. Acquisition (including gifts), sale, or encumbrance of real property.
6. Matters with potential for significant damage to the reputation of the University.
7. Any material change to the University's investment program.
8. Approval of capital projects valued at two million dollars or more and any material changes to such projects.
9. Borrowing of funds by the University or Affiliated Entities and any changes to the term of existing indebtedness.
10. Public Private Partnerships.
11. Use of University funds for capital improvement projects exceeding two million dollars in construction costs and all changes to such projects that increase project costs by more than 10 percent of the original estimate.

12. Creation, dissolution or amendment of governing documents of Affiliated Entities.
13. Review and confirmation of all appointments by the President to affiliated entities other than President or designee as provided in Section 1004.28 F.S.
14. Adoption of or amendment to the University strategic plan.
15. Annual operating and capital budgets for the University and Affiliated Entities and amendments to any line item of two million dollars or greater that exceeds 10% of the value of such line item.
16. University works plans, accountability plans and all other significant reports required to be submitted to the BOG.
17. Creation or termination of degree programs.
18. Naming of Buildings.
19. Establishment or closure of educational sites.
20. Amendment to University governing documents.
21. Establishment or elimination of Board Committees.
22. Hiring, supervision, termination and annual evaluation of the President.
23. University regulations and Board policies.
24. Annual institutional budget request and changes thereto in an amount greater than the lower of five million dollars or .5% of the budget
25. Adoption of new or changes in existing tuition and fees.
26. Internal and external audits of the University and Affiliated Entities.
27. Campus master plan, capital improvement plans, and amendments thereto.
28. Adoption or amendments to Committee charters.
29. Awarding of Tenure.
30. Collective bargaining agreements and impasse.
31. Conferral of degrees.
32. Transfer of university funds to, from, or among Affiliated Entities.
33. Performance unit plan adoption, amendment and cancellation as well as participation, goals and payments under the performance unit plan.
34. Hiring and firing or reduction of compensation of the Vice President and General Counsel, Chief Compliance Officer, and Chief Audit Executive, who shall report to the Board as well as the President.
35. Hiring and firing or reduction of compensation for the Chief Financial Officer and the Vice President of Administration or Chief Operating Officer.
36. Selection of Chair and Vice Chair of the Board.
37. All items required by the BOG or Florida Legislature to be approved by the Board.
38. Any additional items required by the Board to be approved by it.

Items requiring President to consult with the Board Chair before implementation:

1. Hiring, dismissal (except for Vice President and General Counsel, Chief Compliance officer and Chief Audit Executive) and any annual increase of more than 5% in the compensation of any Vice President or other direct report to the President, the head football coach or the head men's basketball coach. The President and Chair shall review and agree annually on the individuals that are governed by this provision.

2. Initiation, appeal or settlement of lawsuits involving the University or Affiliated Entities other than tort claims handled by the State Division of Risk Management.
3. Any matter which has the potential to create significant political or reputational issues for the University.
4. Employment contract with an employee of the University or an Affiliated Entity with a term greater than one year

INITIATING AUTHORITY
UCF Board of Trustees

History: New 10-26-2017. Amended 1-24-19, 5-16-19.

Authority: Section 7(c), Art. IX, Fla. Const.; FL BOG Regulation 1.001; FL BOG Delegation Best Practices and Principles.

ITEM: INFO - 2

UCF BOARD OF TRUSTEES
Executive Committee
August 4, 2020

Title: Board Emerging Issues Update

Background:
Chair Seay has requested proactive Trustee engagement with areas where the university has made a significant investment, is considering making a significant investment, or has faced challenges.

Board members have used their experience and expertise, where they bring valuable background and skills, to advise executive leadership and share with other board members their findings and recommendations on the respective emerging issues assigned at the December 16, 2019 Executive Committee meeting.

Issues to be Considered:
At the Chair's request, staff have compiled a summary of the recommendations associated with each issue (Attachment A). Chair Seay will facilitate a discussion to consider if a Board Emerging Issue should be considered closed, assigned to a committee for monitoring, or mapped to a presidential goal.

Additionally, Chair Seay will address her expectations for the Board's role in the next phase of the emerging issues monitoring and discuss new issues for consideration and assignment to committees.

Alternatives to Decision:
N/A

Fiscal Impact and Source of Funding:
N/A

Recommended Action:
This item is being presented as information only.

Authority for Board of Trustees Action:
N/A

Contract Reviewed/Approved by General Counsel:
N/A

Committee Chair or Chair of the Board approval:
Chair Seay has approved adding this item to the agenda.

Submitted by: Karen Monteleone, Assistant Vice President, Board Relations

Supporting Documentation: Attachment A – Emerging Issues Status Report

Facilitators/Presenters: Chair Seay

Pending Presentation to Board of Trustees

Emerging Issue	Last Update	Summary of Update or Action	Current Status	Additional Details	Committee Assignment
Contracts	6/18/2020	Trustee Okaty and VP Cole are in the process of providing an executive summary of recommendations to the Board. Recommendation will include an inventory of the number and types of contracts, guiding principles for contract review, negotiation and approval process, and approach for mitigating risk in line with best practices from peer institutions.	Pending presentation to full Board		
Real Estate, Space Utilization, Shared Services and Efficiencies	2/20/2020	Trustee McAlpin shared an update on UCF's Real Estate portfolio and brief overview of opportunities for how to approach shared services within enterprise-level functions.	Pending presentation to full Board		
UCF Global	N/A	Presentation re-scheduled for August 20 Board meeting	Pending presentation to full Board		

In-Progress

Emerging Issue	Last Update	Summary of Update or Action	Current Status	Additional Details	Committee Assignment
Communications and Marketing	4/23/2020	An overview of Communications and Marketing was provided by Trustee Gray, unit leadership, and a faculty expert. The review team recommended that the senior communications and marketing officer should be a member of the President's Cabinet and the team should do better to guide communications and marketing across the entire institution.	In-Progress	Organizational structure will be addressed in President Cartwright's goals for 2020-2021.	Advancement
IT and Cybersecurity	4/23/2020	The Board voted to direct leadership to engage an outside expert to develop an execution plan to complete the IT2020 project and develop a financial model that identifies implementation costs as well as medium- and long-term financial impacts of the IT2020 vision	In-Progress	ITN issued in May 2020 and external partner was selected in July 2020. Partner will begin work with key stakeholders in August 2020.	Finance and Facilities

Emerging Issue	Last Update	Summary of Update or Action	Current Status	Additional Details	Committee Assignment
Enrollment Strategy	2/20/2020	Board voted to ask the new President to develop a comprehensive enrollment plan within the next year. The plan should be managed by a senior leader, data-driven, and more inclusive of college leadership and student success.	In-Progress	Organizational structure and strategic planning will be addressed in President Cartwright's goals for 2020-2021.	Educational Programs
BRIDG	7/23/2020	President Cartwright updated the Board that UCF would be ending its management agreement with BRIDG and that UCF would no longer support BRIDG at the previous level. Until UCF finds an organization to take over, the center will be used as a research location.	In-Progress	President Cartwright assigned Ron Piccolo to work with VP Cole and VP Klonoff to finalize transition of the facility from BRIDG to UCF and identify a path forward.	Executive Committee
UCF Health	4/23/2020	An overview of the College of Medicine and UCF Health was provided by Trustee Conte and unit leadership. Trustees discussed the need for a strategic plan for UCF's medical enterprise, including review of tuition rates and partnerships with local private entitites.	In-Progress	ITN will be posted on August 3 for an external partner to faciliate a review and strategic planning process for UCF's Academic Health Sciences Center.	Executive Committee
University Finances and Internal Loans	5/21/2020	Financial overview provided by CFO. Associate Vice President for Finance provided an update on Internal Loan payback schedule and dashboard used to track repayment.	In-Progress	Trustee Martins requested that delegation of authority be updated to require approval of future internal loans.	Finance and Facilities

Emerging Issue	Last Update	Summary of Update or Action	Current Status	Additional Details	Committee Assignment
DSO and Affiliated Boards	6/18/2020	The Board voted to support the management recommendations described in the DSO project report be implemented by President Cartwright; that the governance recommendations be directed to the Governance Committee to bring back recommendations to the Board of Trustees for adoption; and that quarterly implementation updates be provided to the Board.	In-Progress	AVP for Direct Support Organizations is working with DSO's to implement the management recommendations; the related governance recommendations have been placed on the Governance Committee's Annual Plan. Additional review of affilate boards will be completed Fall 2020.	Governance
ERP Upgrade	6/18/2020	Trustee Martins made a motion to proceed with procuring an ERP system and implementation partner in line with the proposed 24-month schedule. The projected cost of $50 million would be added to the carryfoward plan for FY21.	In-Progress	UCFIT leadership has hosted campus-wide town halls on the ERP upgrade and demos are scheduled for the first two weeks in August. Final contracts are scheduled to come to the Finance and Facilities Committee, then full Board for approval in October.	Finance and Facilities
New Budget Model	5/21/2020	An overview of the new budget model was provided by university leadership and Huron Consultants at the Board Retreat.	In-Progress	UCF is currently completing the "shadow year" of the new budget model to prepare for implementation during FY22.	Finance and Facilities

Complete

Emerging Issue	Last Update	Summary of Update or Action	Current Status	Additional Details	Committee Assignment
Crisis Response Planning	2/20/2020	The Board adopted a Crisis Response Plan and the Emerging Issues and Crisis Response Team was created by management.	Complete	N/A	N/A

Emerging Issue	Last Update	Summary of Update or Action	Current Status	Additional Details	Committee Assignment
Stadium Infrastructure	6/18/2020	Thornton Thomas Eddy is the selected engineering firm to complete analysis on steel infrastructure. Initial work product has been completed in the field and Thornton Thomas Eddy is in the process of providing a final report. Once received, a bid will go out to select a vendor to complete the remediation work on the entire stadium. Thornton Thomas Eddy will provide a certification letter each year. After the 2021 year, there will be annual maintenance on the stadium.	Complete	N/A	N/A

ITEM: INFO - 3

UCF BOARD OF TRUSTEES
Executive Committee
August 4, 2020

Title: Revisions to Board Agenda Memoranda

Background:
The adoption of a standard format for a Committee and Board agenda memoranda was approved at the January 24, 2019 Board meeting. The essential components of the recommendation were that all decision points relative to an agenda item be specifically identified; all pro and con facts relative to each decision point be identified; that the specific source of funding and fiscal impact be included in the agenda item; any restrictions on the proposed funding source be identified; section titled Board's Authority for Action citing the statutes or university regulations that enables the Board to take action; and the committee chair or chair of the board must approve all agenda items before they are posted publicly.

Proposed revisions to the agenda memoranda template are attached for the Executive Committee's review and input. The new template provides:

- A framework to distinguish whether an information item (INFO) will come back to the committee or Board for future action.
- The addition of a Purpose section which will include a requirement that staff document how the president's goals were strategically considered in the development of the agenda item.
- Alternative to Decision section was removed. Feedback received suggests that the Board was not ultimately responsible for developing their own alternatives, as these alternatives would organically occur during the Board's agenda item discussion.

If the committee supports the revised agenda memo, it will come before the full board at the August 20, 2020 meeting for approval.

Issues to be Considered:
If the proposed revisions effectively improve the current agenda memorandum to be more informative and provide better context to agenda items.

Alternatives to Decision:
This item is being provided for input only. No action is being requested at this time.

Fiscal Impact and Source of Funding:
N/A

Recommended Action:
The proposed revisions to the agenda memoranda template are attached for the Executive Committee's review and input.

Authority for Board of Trustees Action:
N/A

Contract Reviewed/Approved by General Counsel:
N/A

Committee Chair or Chair of the Board approval:
Chair Seay has approved adding this item to the agenda.

Submitted by: Karen Monteleone, Assistant Vice President, Board Relations

Supporting Documentation: Attachment A – Revised Agenda Memo, July 2020

Facilitators/Presenters: Karen Monteleone

Attachment A

ITEM: XXXX

UCF BOARD OF TRUSTEES
Agenda Item Summary
{Committee name}
{Date}

Title: *{Brief description of requested action by Committee or Board.}*

☐ **Information** ☐ **Information for upcoming action** ☐ **Action**

Meeting Date for Upcoming Action: _____

Purpose:
{This section should also include documentation of how the president's goals were strategically considered in the development of the agenda item.}

Background Information:
{This section should include the information that has occurred or has been previously addressed regarding the requested action that forms the basis for the recommendation that is coming to the Committee or the Board at this time.}

Recommended Action:
{This section should state the staff's recommendation with specificity.}

Fiscal Impact and Source of Funding:
{This section should identify the actual financial cost of the decision to the University, the specific funding source account and any restrictions on the proposed funding source.}

Authority for Board of Trustees Action:
{Cite the statute(s) or university regulation(s) that enables the board to take the proposed action.}

Contract Reviewed/Approved by General Counsel ☐ **N/A** ☐
{Indicate by checking the box above that the contract have been reviewed by General Counsel or check N/A if not applicable}

Committee Chair or Chair of the Board has approved adding this item to the agenda ☐
{Indicate by checking the box above that the Committee Chair or Chair of the Board has approved the agenda item before they are posted publicly}

Submitted by
{List Senior Officer(s) that is sponsoring the proposed action.}

Supporting Documentation:
{Attach supporting documentation, noted as Attachment A, Attachment B and so on.}

Facilitators/Presenters:
{List facilitators and/or presenters responsible for moderating the discussion on meeting date.}

ITEM: EXEC-2

UCF BOARD OF TRUSTEES
Executive Committee
August 4, 2020

Title: UCF Legislative Budget Requests

Background: The Board of Governors has issued instructions to the universities for fiscal year 2021-2022 Legislative Budget Requests (LBRs). The BOG will focus its LBR for the System on the Pillars of Excellence initiative, which includes requests in the following three "Pillars:" Performance-based funding, Preeminence / National Ranking, and University of Distinction. The amount to be requested for each Pillar will be determined by the BOG.

Within the University of Distinction Pillar, state universities are instructed to focus on one core competency unique to the institution that achieves excellence at the national or state level, meets state workforce needs, and fosters an innovation economy that focuses on areas such as health care, security, transportation, and science, technology, engineering, and mathematics (STEM), including supply chain management.

The BOG LBR guidelines also provide that if a university is pursuing a university-unique budget request the appropriate forms must be completed and are to be provided to the BOG as information.

UNIVERSITY OF DISTINCTION
"UCF Powering-Up Florida's High Tech Economy" $21,422,400
The BOG instructed universities that submitted a University of Distinction proposal for 2020-2021 to submit a proposal for the same area of distinction. For the 2020 legislative session, UCF submitted a proposal entitled "UCF Power Up." Under new leadership, the proposal has been strengthened to include a larger research emphasis and to broaden the reach of the proposal's benefits to various academic programs across the university, while requesting the same level of funding as requested previously. The proposal includes 64 new faculty hires, 16 support positions, tripling the EXCEL program and learning communities, increasing capacity in Math Bootcamps and focusing on mega research areas directly relevant to Central Florida growth industries.

UCF COLLEGE OF MEDICINE: "Critical Investments in Florida's Infectious Disease and Tourism Health for A Safer Society" $7,948,750
UCF College of Medicine is proposing an LBR for recurring funding to support development of an infectious disease and tourism initiative, bringing together multidisciplinary expertise, research, education clinical and service components to study, tack, and manage emerging pathogens in a community of global tourism and travel.

UCF RESTORES $1,050,000
UCF RESTORES provides treatment and resiliency services at no cost to Florida's veterans, active duty personnel, first responders, and survivors of sexual assault, mass shootings or natural disasters.
UCF is proposing an LBR for nonrecurring funding to: (1) continue the operation of the UCF RESTORES treatment program at current locations, (2) develop an on-line suicide prevention curriculum for populations at risk, and (3) build, deploy and maintain the Red Line Rescue, Blue Line Rescue and Front Line (Veteran) Rescue apps.

Issues to be Considered: Whether to approve the proposed legislative budget requests as UCF's funding priorities for the 2021 state legislative session.

Alternatives to Decision: The University of Central Florida's legislative budget requests are required to be submitted to the Board of Governors on August 7, 2020.

Fiscal Impact and Source of Funding: This is a request for state funds.

Recommended Action: Consider and approve or modify the three proposals.

Authority for Board of Trustees Action:
Section 1001.706(4)(b), Florida Statutes: The Board of Governors shall prepare the legislative budget requests for the State University System, including a request for fixed capital outlay, and submit them to the State Board of Education for inclusion in the K-20 legislative budget request. The Board of Governors shall provide the state universities with fiscal policy guidelines, formats, and instruction for the development of individual university budget requests.

Board of Governors Regulation 1.001 University Board of Trustees Powers and Duties
(6) Financial Management: (a) Each board of trustees shall be responsible for the financial management of its university and shall submit an institutional budget request, including a request for fixed capital outlay, and an operating budget to the Board of Governors for approval in accordance with the guidelines established by the Board of Governors.

Contract Reviewed/Approved by General Counsel: N/A

Committee Chair or Chair of the Board approval:
Chair Seay has approved adding this item to the August 4, 2020 Executive Committee agenda.

Submitted by: Janet Owen, Vice President for Government and Community Relations

Supporting Documentation:
Attachment A - University of Distinction LBR Forms I & II: UCF Powering Up Florida's High Tech Economy

Attachment B - UCF College of Medicine LBR Forms I & II: UCF Keeping Florida's Tourism Economy Safe from Emerging Infectious Diseases

Attachment C - UCF RESTORES LBR Forms I & II

Facilitators/Presenters:
President Cartwright
Provost Michael Johnson

State University System
Education and General
2021-2022 Legislative Budget Request
Form I

University(s):	**University of Central Florida**
Request Title:	**UCF Powering Up Florida's High Tech Economy**
Date Request Approved by University Board of Trustees:	
Recurring Funds Requested:	**$18,422,400**
Non-Recurring Funds Requested:	**$3,000,000**
Total Funds Requested:	**$21,422, 400**
Please check the request type below:	
Shared Services/System-Wide Request	☐
Unique Request	☒

I. Description – *1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2020 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.*

Description

With ever greater urgency, industries will require a highly educated, high-quality talent pool ready to join a rapidly expanding STEM sector in and around Orlando and the state. UCF has an obligation to our community and state to help meet this need; failure to do so would be at the detriment of the local and state economy.

With an impressive history of achievement, the University of Central Florida's College of Engineering and Computer Science is uniquely positioned to fulfill this urgent request. In a September 2019 report, the Orlando Economic Partnership expressed support for the College of Engineering and Computer Science and how it "demonstrates significant contributions to state and regional competitive advantage in high-wage job creation… [and] supports regional goals to be driven by key enabling technologies and corresponding use cases associated with extended reality (i.e., simulation and training), autonomous vehicles, and smart cities (internet of things), among others."

In this LBR, UCF identifies the College of Engineering and Computer Science (CECS) as a core unit within the institution to reach higher levels of national excellence. CECS has a number of programs under its umbrella, such as Civil, Environmental and Construction, Computer Science, Electrical and Computer Engineering, Industrial Engineering and

Management Systems, Mechanical and Aerospace Engineering and Materials Sciences and Engineering, which serve to fuel the pipeline of workers with Science, Technology, Engineering and Math (STEM) skills. According to the Florida Council of 100's Project Sunrise report "each month, an average of 80,000 high-skilled and 30,000 middle-skilled jobs are left unfilled."

Funding Purpose
This proposal seeks funding to improve CECS undergraduate and graduate program rankings, while concurrently improving the graduating student pipeline and related metrics, to include:

- **Improving quality and success ($13.1 million) –** by hiring 64 more faculty members and 16 supporting staff positions to ensure UCF meets *and exceeds* its institutional strategic plan goal of offering additional class sections, particularly for high-demand STEM pathway courses;
- **Enhancing the talent pipeline for a 21st-century economy ($2 million) –** increasing the capacity of programs that recruit, sustain and graduate STEM students at high rates by focusing on STEM learning communities and early engagement in undergraduate research experiences, as well as programs that improve the math placement status of incoming FTICs and thus enhance their 4-year graduation chances; and
- **Growing research and economic prosperity –** funding faculty startup packages and upgrading laboratory equipment **($3 million, nonrecurring)** and hiring staff in research supporting positions and student asistants **($3.3 million)** to enhance UCF's existing research and industry partnerships in key areas for the state in AI/ML, Cyber, AR-VR, Modeling and Simulation, Aerospace Science, Manufacturing, Automation, Energy and Smart Things.

These funds will target strategic areas of opportunity to further enhance UCF's pursuit of academic and research excellence as a Florida University of Distinction.

COVID-19 Implications
Despite the modifications to instruction and the uncertainties that accompany the current environment in which we are living, the prospect for implementing this initiative, and for its projected outcomes as described herein are not in doubt.

- This initiative can be carried out on the currently modified campus environment. The programs and initiatives herein are deliverable in both face-to-face and virtual settings. In fact, the hybrid offering in both settings significantly increases potential student participation and reach.

- Strategic investment in recruiting top-tier faculty talent at this time represents a competitive opportunity. Universities across the nation are experiencing revenue challenges resulting in expanded opportunities to recruit outstanding faculty to UCF.

- At UCF, our student retention has remained strong as we continue in the modified mode of educational delivery and operations.

- Not unlike the Great Recession, the Coronavirus pandemic has underscored the fact that diversification of Florida's economy should remain a statewide focus and

priority. This initiative supports not only our existing diverse industries but will significantly expand their capabilities to compete successfully in the global economy. This work directly supports those industry sectors that have not suffered from the impacts of COVID-19, but continue to grow. In the throes of this pandemic, Florida hosted the launch of NASA astronauts to the International Space Station.

A. Evidence of core competency and national, state excellence

The University of Central Florida's College of Engineering and Computer Science (CECS) is one the State University System's most distinctive and nationally recognized pillars of excellence.

Originally founded as Florida Technological University to support Florida's space-related economy, UCF has long excelled in engineering, computer science and related disciplines. Through its commitment to partnering with regional industry to meet the increasing workforce needs of one of the growing, dynamic job markets in the country, CECS has become the talent pipeline of choice for Central Florida's STEM-related industries.

UCF is graduating students who contribute to Florida's economy with high-paying jobs. This is evidenced, in part, by:

- In 2016-17, **64 percent of engineering bachelor's graduates were employed in Florida** and earned average first-year salaries ranging from $54,080 to $65,420.
- *Aviation Week* magazine has named **UCF the No. 1 supplier of graduates** to the U.S. aerospace and defense industries for **five consecutive years**.
- A longstanding partnership with Lockheed Martin includes **500 students per year who intern** at the company. UCF graduates represent 27 percent of the Lockheed-Martin Orlando workforce (70 percent in STEM-related positions).
- NASA's Kennedy Space Center reports that **30 percent of its employees** hold UCF degrees, mostly from CECS.

B. Strong national engineering reputation

In the 2021 *U.S. News and World Report* rankings, UCF achieved Top 50 public university rankings for its undergraduate and graduate engineering programs.

2021 U.S. News and World Report	Public Ranking	Overall Ranking	SUS Ranking
Graduate Engineering	43	74	2
Undergraduate Engineering	49	83	2

Table 1: 2021 U.S. News and World Report Undergraduate and Graduate Engineering Ranking

UCF CECS' growing national reputation shows no signs of slowing. In the past five years of *U.S. News* Graduate Engineering rankings among the current top 50 public institutions, UCF was a Top 5 mover having improved 11 spots (in last year's chart, Graduate and Undergraduate Engineering's overall ranking was 75 and 85, respectively).

U.S. News and World Report ranked **every graduate engineering program in the Top 55** among public institutions.

2021 U.S. News and World Report	Public Ranking
Optical Sciences and Engineering	5
Industrial Engineering	30
Electrical Engineering	33
Computer Engineering	36
Materials Engineering	36
Aerospace Engineering	37
Mechanical Engineering	43
Environmental Engineering	43
Civil Engineering	53

Table 2: 2021 U.S. News and World Report Graduate Engineering Programs Ranking

C. Strong national computer science reputation

UCF's College of Engineering and Computer Science ranked 51st among public institutions for Computer Science.

2021 U.S. News and World Report	Public Ranking	Overall Ranking	SUS Ranking
Computer Science	51	82	2

Table 3: 2021 U.S. News and World Report Computer Science Ranking

Additionally, the UCF student quality in these fields is evident by the national performance of the UCF Cyber Defense team, such as **winning Raytheon's National Collegiate Cyber Defense Competition (NCCDC) in 2014, 2015 and 2016,** and earning a 2nd place in the same competition in 2018, 2019 and 2020. In all, UCF appeared seven out of eight times in the national cyber competition and no other competitor won as many trophies as UCF (three 1st place trophies and three 2nd place trophies).

UCF's Programming team has been in existence for more than 30 years. UCF has been a perennial presence in the Programming World Finals by winning the Southeast (SE) Regional Programming Competition 60 percent of the time. In the World Finals of 2017 and 2018, the UCF team **placed 13th worldwide (1st in the US) and 10th (1st in North America),** respectively, outperforming teams from prominent universities such as MIT, UC Berkeley, Cornell, Princeton, UT Austin, University of Illinois Urbana Campaign (UIUC), Stanford, Carnegie Melon University (CMU), University of Southern California (USC) and University of Maryland.

A partnership with Microsoft has provided UCF with graduate fellowships that have allowed students to be on the cutting edge of work in cloud computing. UCF's emerging focus on artificial intelligence, deep learning and machine learning – supported, in part, by our Microsoft partnership – is consistent with employment trends suggesting that expertise in these topics will be essential for most computer science graduates.

D. Expanding student opportunity

Student diversity is well represented among those who graduate with UCF CECS degrees. Of approximately 2,250 degrees awarded in 2019-20, 44 percent went to minority graduates and 19 percent to female graduates.

Among bachelor's graduates, 43 percent were Pell-eligible, and 23 percent were the first in their families to attend college.

National Public University Rankings			
UCF	**Total Degrees**	**Degrees to African American Students**	**Degrees to Hispanic Students**
Engineering	13	4	4
Computer Science or Information Technology	5	8	2

Rankings from 2015-16 IPEDS data based on fields offered by UCF

Table 4: Engineering and Computer Science or IT National Public University Rankings

UCF has demonstrated outstanding success with previous additional state investments to improve engineering and computer science outcomes. In 2014, UCF was awarded a Targeted Educational Attainment (TEAm) Grant by the Board of Governors. UCF served as the lead institution in partnership with the University of South Florida and Florida International University to help close the gap between supply and demand in computer engineering, computer science, and information technology graduates (CSIT TEAm). The initiative promised the expansion of upper-level students and an increase in the graduation volume. After five years, **UCF achieved a 119 percent increase in these computer science-related graduates** – 288 graduates to 631 – to help address critical workforce needs.

The Honors College

UCF's Burnett Honors College (BHC) recruits approximately 500 outstanding students annually. BHC currently enrolls about 2,200 students and is recognized as one of the top 20 honors colleges in the country. In Fall 2019, BHC welcomed a class of 526 freshmen with an average SAT of 1465 from 29 states, 27 different countries of origin, who speak 28 different languages. BCH annually recruits about 90 National Merit Scholars and about 170 Provost Scholars, approximately half of its incoming fall Honors cohort. It is notable that more than 40 percent of the Honors students are College of Engineering and Computer Science (CECS) students. New CECS hires, requested in this LBR, and the strong CECS student Honors pool will jointly contribute in the pursuit of these goals for the sustained and improved well-being of the state's economy.

E. Research excellence contributing to higher ranking

External Research Funding

In terms of research success, UCF reported a new record of $204.9 million in new grants during 2020 (as of July 15 – excluding CARES Act funding), and of this total, engineering and related disciplines represented $74.2 million (36 percent) of overall grant funding.

National Ranking

Based on the National Science Foundation's 2018 Higher Education R&D survey, **UCF ranked 37th nationally for public universities** and second in the SUS for engineering research expenditures. The same survey **ranked UCF 10th nationally for public universities and first in the SUS** for computer science research expenditures.

Quality of Junior Faculty

In the last six years, more than 80 new faculty (a significant number were junior faculty) were hired in the College of Engineering and Computer Science to improve the student-

to-faculty ratio as well as to enhance research excellence. This faculty hiring focus has paid dividends in the short term and is expected to continue paying dividends in the long term. Not only have the research expenditures steadily improved (See Table 8 in Part II: Return on Investment), the NSF ranking of these research expenditures in both engineering and computer science programs has also significantly improved.

UCF leads the state and ranks sixth in the nation for the number of NSF CAREER Award recipients in 2019. As of July 22, UCF confirmed 12 awards. The College of Engineering and Computer Science represents seven of the 12 awards.

The CAREER awards are among the most prestigious in the nation and include funding. Recognizing early-career professionals with promising research, the awards are part of the NSF's Early Career Development Program and are given to recipients who have the potential to serve as academic role models and lead their respective fields. The junior faculty in the College of Engineering and Computer Science have also received other prestigious Young Investigator awards from agencies such as NASA, Air Force Office of Research, Office of Naval Research and Defense Threat Reduction Agency.

These junior faculty have worked closely with undergraduates in UCF's Honors' college and participated in the EXCEL program to provide a well-rounded education to UCF students that includes involvement in research, thus raising the quality of the produced talent pipeline. It is our intention to emulate and expand CECS's aforementioned successes with the support from this LBR through the hiring of 64 new faculty.

Entrepreneurial Work Leading to Patents
UCF ranks 31st among public universities in the nation and among the top 100 universities in the world in generating patents, and according to new rankings released in 2019 by the National Academy of Inventors and the Intellectual Property Owners Association, UCF has ranked in the top 100 in the world for the past five years.

To spur the growth in research, UCF recently established a Big Data, Artificial Intelligence Initiative (cross-campus) with an accompanied announcement of COVID-19 seed grants. Additionally, Research for Undergraduates (REU) funded by the National Science Foundation has significantly enhanced the research capabilities of our students in the areas of Computer Vision (at more than 30 years running, it the longest-running NSF REU program in the nation), Cyber, Nano-technology and other areas. UCF also leads the management of one of the world's largest active radio telescopes, the iconic Arecibo Observatory in Puerto Rico. The recent research recognitions at UCF provide an opportunity for CECS to increase its ranking further and enhance the national and international reputation of the college and the institution.

F. **Job Growth in Central Florida**

UCF engineering and computer science students are actively sought by industry and the college is ranked by Aviation Week as the nation's No. 1 supplier of graduates in aerospace and defense industries. Manufacturing and computing are embraced by aerospace, automotive, medical, defense, photonics, microelectronics and other high-tech industries, such as the ones that gained Central Florida's reputation as the hub of a vibrant modeling and simulation community. CECS' current curriculum, addressing the aforementioned industry needs, accompanied with training through a plethora of internships (e.g., Lockheed), is specifically designed so that students learn fundamental

and practical skills needed for their professional success. This provides the potential for sustainable long-term employment in Florida for UCF graduates in a 21st-century economy, who go on to become global leaders of Florida industries.

CECS Employability Numbers:
The College of Engineering and Computer Science surveys its graduating students six months after graduation to determine employment status. CECS' survey results for the 2018-2019 CECS graduating class indicated that:

- A vast majority of respondents reported being employed either full-time or part-time (88.1 percent undergraduate; 90.5 percent master's; and 92.7percent doctoral).
- Of those who reported employment, the majority of the respondents were employed on a full-time basis (93 percent undergraduate; 90.5 percent master's; and 92.1 percent doctoral).
- Of those who reported employment, many of the respondents indicated they were employed in Florida (66.1 percent undergraduate; 55.2 percent master's; and 52.6 percent doctoral).
- Of the undergraduates and graduate student respondents who provided their annual salary information, the average was $66,919 and $81,180, respectively.

In 2018-2019, CECS graduated 1,533 BS, 390 MS and 108 Ph.D. students. The employability numbers, mentioned above, indicate that CECS produced, in 2018-2019, more than 1,100 engineering and computer science graduates for Florida's economy. Trends indicate that the number of graduates in CECS will continue to increase for years to come. Furthermore, this LBR's focus on student retention and graduation (EXCEL learning communities, math boot camps, 4-year graduation) are expected to further increase the number of CECS graduates in future years. Therefore, it is expected that CECS will soon be producing, with this LBR's support, more than 1,500 engineering and computer science graduates, annually, for the State of Florida.

UCF Powering Up Florida's High-Tech Economy
Quality, impact, diversity, workforce and research success demonstrate why the university is proposing an investment in engineering, computer science and related disciplines, designed to meet the unmet needs of Central Florida's quickly growing STEM-based economy while accelerating the university's pursuit of excellence and statewide impact.

Our plan is to power the UCF College of Engineering and Computer Science past the Top 40 of the *U.S. News and World Report* undergraduate and graduate public university rankings by 2025, with an aspirational goal of the Top 25 by 2035.

Called *UCF Powering Up Florida's High Tech Economy*, the plan will enhance our distinctive areas of engineering and computer science excellence by addressing 1) successful student outcomes, 2) talent pipeline for industry, and 3) research and economic prosperity.

UCF Powering Up Florida's High Tech Economy	
64 faculty members	$13.1 million recurring
16 support positions	$1.3 million recurring
EXCEL/Bridge Program Investments	$2 million recurring
Funds for Student Assistants	$2 million recurring
Laboratory Equipment Upgrades	$3 million non-recurring
Total	**$21,422,400**

Table 5: Breakdown of UCF Powering-Up Florida's High Tech Economy Resources Request

Specifically, UCF requests $21.4 million in recurring and non-recurring resources to:

1) **Improve quality and student success:** Hire more faculty strategically to increase student retention and graduation rates and shorten average time to degree. These improvements will lead to a higher-quality experience for students with more efficiency toward degree completion and reduced costs for students. Hire support positions (at a 1:4 ratio with faculty) to ensure the laboratory managers and personnel infrastructure are in place to support the faculty hires.

2) **Enhance the talent pipeline for a 21st-century economy:** Increase programs that recruit, sustain and graduate STEM students at high rates by focusing on STEM learning communities and early engagement in undergraduate research experiences (e.g., EXCEL program at UCF). Expand and enhance bridge programs, such as math bootcamps that improve the math placement status of incoming FTICs and thus enhance their 4-year graduation chances. These programs ensure our students are successful within their degree programs and are best prepared for high-paying jobs upon graduation.

3) **Grow research and economic prosperity:** Enhance UCF's existing research and industry partnerships in key areas for the state, encompassing a number of engineering and computer science topic areas including AI/ML, Cyber, AR-VR, Modeling and Simulation (Mega Area 1; for more details see below), and Aerospace Science, Manufacturing, Automation, Energy, Smart Things (Mega Area 2; for more details see below) through hiring more faculty, providing faculty startup packages, upgrading laboratory equipment and hiring staff in research support positions.

1. Improve quality and success

Hiring 64 more faculty members will ensure UCF meets *and exceeds* its institutional strategic plan goal of offering additional class sections, particularly for high-demand STEM pathway courses. Increasing the number of faculty enhances the student experience by providing more opportunities for quality student-faculty engagement in both education and research.

The College of Engineering and Computer Science 4-year graduation rate is one of the focal pursuits of this LBR effort. While only 27 percent of CECS students graduate in four years, this is a significant improvement over the 21 percent 4-year graduation rate observed five years ago. Furthermore, our data show that another 14 percent graduate in just one extra semester, which indicates that there is a potential of significant improvement with a reasonable amount of effort. If those students are able to graduate *one semester earlier*, the overall four-year graduation rate for UCF would immediately rise by 3 percentage points based on CECS improvements.

Hiring 16 support positions will ensure faculty and labs have the appropriate infrastructure to be successful.

2. Enhance the talent pipeline for a 21st-century economy

As identified previously, UCF is the engine that will propel Central Florida's tech sector into the model of a 21st-century economic success story.

UCF *Powering Up Florida's High Tech Economy* will strengthen the rich educational experience for all of UCF's students.

UCF will Power Up student success in engineering and computer science by:

- **Tripling the EXCEL program**, including the expansion of the supported math courses from College Algebra through the Calculus sequence and into Differential Equations.
- **Tripling the EXCEL learning communities** that place cohorts of students into math, introduction to engineering, and possibly science courses.
- Offering **10 times as many seats** in Math Bootcamps.

Originally started in 2006 with an NSF grant, UCF's EXCEL program focuses on the first two years of student enrollment and increases the likelihood of graduation in a chosen STEM discipline. EXCEL accomplishes this feat by creating STEM-learning communities that focus on math skills in year one, providing early engagement with undergraduate research experiences in year two, and expanding the personal advising that the students get in their first two critical years of their college experience.

The program has achieved 92 percent first-year retention, a 54 percent increase in STEM graduation compared to the matched non-EXCEL cohort, placed more than 800 students in research experiences, and has engaged more than 5,200 students in STEM learning communities. In comparison to the matched cohort, EXCEL has recruited higher percentages of female and Hispanic students (42 percent female students in EXCEL's 2019 cohort compared to 34 percent in the matched cohort, and 35 percent Hispanic students in EXCEL's 2019 cohort compared to 30 percent in the matched cohort). Furthermore, the graduation success of female and Hispanic students has been equally impressive or better than that observed in the total EXCEL population, with a 54 percent percent increase in STEM graduation for female students and 59 percent increase in STEM graduation for Hispanic students.

Math placement and success is a major driver among STEM time-to-degree. EXCEL has utilized a Math Bootcamp that includes a one-week intensive math session and an updated math placement exam. This program gives students an opportunity to start their STEM program on the appropriate math pathway and because of the one-week intensive Math Bootcamp, quite often, at an accelerated pathway with verifiable success. If this program is expanded 10-fold, per this LBR's plan, we expect that the number of UCF's STEM students being in a 4-year graduation pathway to increase significantly.

3. Grow research and Florida's economic prosperity

As Orlando's only public research university, UCF is the academic research leader for Central Florida. The university has achieved more than $1 billion in external research grants during the past decade and continues to be one of 94 public institutions in the nation designated as an "R1: Doctoral University: Very high research activity" among Carnegie classifications. This last year, UCF set an institute record with more than $200M in research awards.

UCF faculty drive Central Florida's research enterprise, both in their laboratories and through partnerships with industry, advancing economic development through translational research. UCF faculty play a critical role in the pursuit of excellence. Below, we describe two mega areas of research that have unique strengths at UCF and drive Central Florida's, as well as Florida's economy, that this LBR intends to enhance.

Central Florida provides a unique locational advantage for such research endeavor as seen in the accompanying diagram (**Figure 1**) that showcases Florida industries that power up Florida's high-tech economy.

Mega Area 1: AI/Cyber/AR/VR/Modeling & Simulation Research:
One of the mega-areas of research that has brought economic prosperity in the State of Florida - and is projected to continue – includes the following topic areas (all computing-related areas of focus and of critical importance in the digital era): Artificial Intelligence, Cyber, Augmented Reality-Virtual Reality, and Modeling and Simulation (AI/Cyber/AR-VR/MS).

The need for workforce talent in these computing areas is significant. According to the Bureau of Labor Statistics[2], "Employment of computer and information technology occupations is projected to grow 12 percent from 2018 to 2028, much faster than the average for all occupations. These occupations are projected to add about 546,200 new jobs. Demand for these workers will stem from greater emphasis on cloud computing, the collection and storage of big data, and information security." In particular, for AI, a 2019 report from Gartner[3] shows that enterprise applications for AI have grown 270 percent in four years, fueling a level of demand that outstrips the current supply of qualified job candidates.

AI/Cyber/AR-VR are areas of increasing and sustained critical importance to the modeling and simulation community in Central Florida, which has been designated as the State's Center of Excellence in Modeling and Simulation. UCF's main campus is adjacent to Research Park, a unique collaborative alliance formed by U.S. leading military modeling and simulation R&D commands (PEO STRI (Army), NAWCTSD (Navy), AFAMS (Air Force), PM TRASYS (Marines)). UCF's Research Park is home to several branches of the military and a vibrant modeling and simulation industry boasting 100+ companies. The US Department of Defense in UCF's Research Park provides annually $6B worth of contracts to companies in UCF's vicinity as well as other companies nationwide. This year, the Navy established the NavalX Central Florida Tech Bridge and the Tech Grove, a public-facing entity formed through a partnership between NAWCTSD and UCF's Research Foundation to solve challenging warfighter problems. The state is significantly vested to sustain and enhance the status of Central Florida as the nationwide location of excellence in modeling and simulation and has invested in five Partnership buildings that co-house the military, the well-renowned UCF's Institute for Simulation

and Training and the National Center for Simulation (representing 260+ companies). AI/Cyber/AR-VR are of increasing and sustained interest to a number of Aerospace and Defense companies, such as Lockheed Martin, L3Harris, Northrop Grumman, Raytheon, Leidos and SAIC, as well as entertainment giants such as Disney, Universal and Sea World, all of which are in short driving distance from UCF.

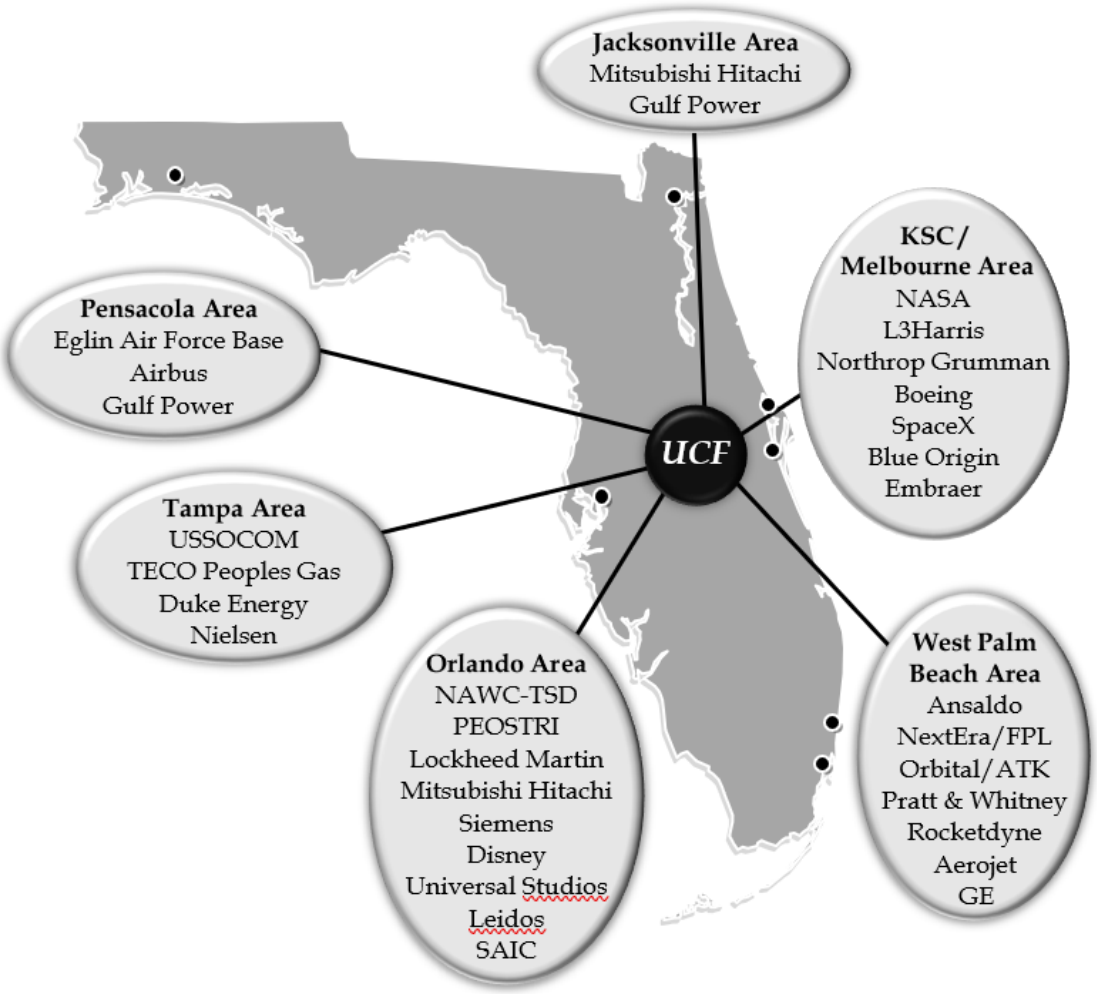


Figure 1: A diagram with Florida companies and their respective locations in the State of Florida. These companies have core business areas of topics contained in Mega Area 1 and/or Mega Area 2.

AI/Cyber/AR-VR/Modeling and Simulation is a mega area of existing strength at UCF. An example of strength of AI-related research at UCF is the Center for Research in Computer Vision (CRCV), established in 2012, which has been funded extensively by federal sources (e.g., DARPA, NSF) and industries (e.g. Lockheed Martin, L3Harris). Computer Vision's increased prominence in solving important problems in a number of application areas (surveillance, automation) relies on recent advances in AI (e.g. Deep Learning) and high-performance computing (e.g. GPU's). According to CSRankings.org Computer Vision Research at UCF is ranked in the top 20 in the nation ahead of many premier institutional powerhouses and every other institution in the State of Florida.

Another example of strength in AI-related research at UCF is Transportation Science and Technology led by faculty in Civil Environmental and Construction Engineering (CECE). Transportation Science and Technology at UCF has been extensively funded by federal sources (USDOT) and state sources (FDOT). According to the 2020 ARWU (Academic Ranking of World Universities), UCF's Transportation Science and Technology has been ranked No. 5 in the U.S. ahead of some of the most prominent institutions around the nation. UCF's increased prominence in Transportation Science and Technology is fueled by the increased focus on AI, Big Data and the increased computing power that makes extraction of knowledge from big data possible.

A recently established Cyber cluster is providing strength in the Cyber area. This past year, the Cyber Cluster brought in a multi-million-dollar research portfolio funded by a number of federal agencies (e.g., NSF, DoD) and industry (e.g., Sophos). This strong research presence accompanied by the sustained and impressive accolades of UCF's Cyber team provides a multi-faceted UCF strength hard to emulate elsewhere. This year, UCF faculty and students partnered with industry and DoD to pioneer a cyber red team pipeline program to grow the next generation of cyber operators that conduct national defense cybersecurity assessments. This cyber workforce development program is vital for Central Florida as home to the National Cyber Range Complex and U.S. Cyber Command's Persistent Cyber Training Environment.

Faculty in the AR-VR/Modeling & Simulation area are also housed in the College of Nursing, College of Medicine and College of Arts and Humanities, with a focus on the science and applications of these topical areas. The AR-VR/Modeling & Simulation interest is further enhanced by the parallel interest of the entertainment industry (Disney, Universal), partially serviced by the Themed Experiences program, led by the College of Arts and Humanities with support from the College of Engineering and Computer Science and the Rosen College of Hospitality Management. This interest is also enhanced by the parallel interest of the medical community, spearheaded by the College of Medicine and the College of Nursing, to incorporate simulation-based education in medicine (education and research). More importantly, there is parallel increased interest (post COVID-19) of the education community (nationwide) to incorporate AR-VR/Modeling & Simulation to more effectively engage in remote teaching and learning.

To continue to excel in our research and provide the talent pipeline to our industry partners, UCF will hire faculty that have expertise in the various topic areas of Mega Area 1.

Mega Area 2: Aerospace Science/ Manufacturing/ Automation/ Energy/ Smart Things:
The aviation and defense industries in Central Florida are thriving and well-diversified. This industry conducts R&D tailored programs to meet the growing demands for highly skilled workers, fueling our economic engine and impacting business in nearly all 23 counties [floridahightech.com[4]]. UCF researchers have participated in collaborative research with the corridor companies and agencies like NASA and Eglin Air Force Base. Our industry partnership includes research areas such as rocket propulsion, hypersonic systems, technologies that deploy telescopes and satellites, AI/ML augmented SSA (Space Situation Awareness) algorithms, high temperature durability of materials, radio and optical techniques for aeronomy and space phenomena at Arecibo Observatory, and lunar and asteroid surface science. UCF has key infrastructure labs to conduct research in these areas and its faculty have published widely in high-impact journals. UCF provides

a rich supply chain and talent pool (No. 1 workforce provider for aerospace and defense companies) to the ever-evolving aerospace and defense industry.

According to the National Association of Manufacturing (NAM)[3], manufacturers in Florida account for over 5 percent of the total output in the state, employing 4 percent of the workforce. Total output from manufacturing was $56B in 2018 from an average of 327,000 manufacturing employees in Florida, with an annual overall compensation of more than $66,000 per employee. The topic areas represented in Mega Area 2 are part of the core business areas for a number of large industries in the state, such as Lockheed Martin, L3Harris, Northrop Grumman, Siemens, Mitsubishi, NextEra/FPL and Duke, as well as the entertainment giants, such as Disney, Universal and others. These are also areas of core business for many small businesses (more than 100) that fuel innovation and entrepreneurship, all located in UCF's dynamic Research Park.

UCF has already established three energy-focused clusters. One such example is CATER (Center for Advanced Turbomachinery and Energy Research), with strong, consistent support from industries such as Siemens, and through federal funds from agencies such as AFRL and DoE. CATER has several dedicated faculty conducting research in interdisciplinary areas of aerodynamics, alternative fuels, material coatings and integrity, and design and manufacturing. Areas of focus for this Center are improved composites, compact turbomachinery and energy storage for smaller power plants and digital twin. CATER's digital twin focus will benefit from advances in AI, Big Data and cyber security and its potential impact is not limited to turbomachinery companies.

UCF's strengths in Mega Area 2 are also established in the College of Optics and Photonics (CREOL), one of the world's foremost institutions for research and education in optical and photonic science and engineering. CREOL has been funded by several arms of DoD. For instance, CREOL currently has 11 projects with DARPA that include the development of the world's fastest laser. CREOL faculty and students are engaged in research covering all aspects of optics and photonics including lasers, optical fibers, integrated photonics, nonlinear and quantum optics, and imaging, sensing and display. These technologies have applications in industry and manufacturing, communication and information technology, biology and medicine, energy and lighting, and defense and homeland security.

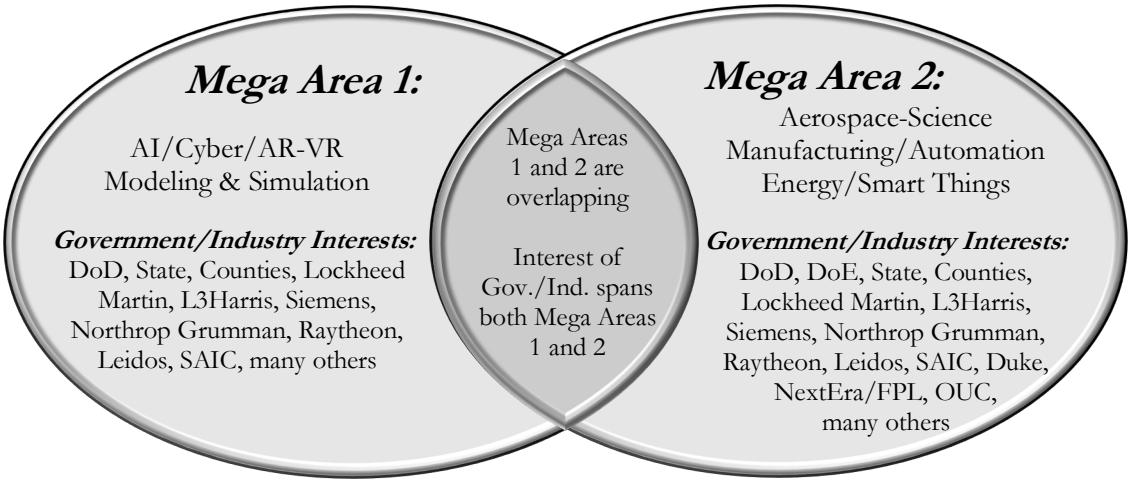


Figure 2: The two mega areas of strength at CECS/UCF are depicted in separate circular objects, where a select, non-exhaustive, group of government, industry entities with a strong presence in Central Florida,

and/or State are shown. The overlapping area of the two circular objects represents the overlapping nature of science/technologies that affect these mega areas (e.g. AI plays a critical role in automation), as well as the commonality of interests of government, industry stakeholders in the topical areas of each mega area (e.g. Lockheed Martin has a strong interest in manufacturing (Mega Area 2), as well as cyber (Mega Area 1)).

To continue to excel in our research and provide the talent pipeline to our industry partners, UCF will hire faculty who have expertise in the various topic areas of Mega Area 2.

The above graphic shows the overlapping science and technologies of these mega areas, which are strengths at UCF and of interest to a number of important industries throughout the state. This LBR and its associated request vies to sustain and enhance UCF's strengths for the benefit of Florida's economy through the university's academic excellence (quantity and quality of talent pipeline and research strengths) resulting in increased private and public partnerships and more opportunities for prosperity.

LBR Request

The additional 64 faculty lines included in this request will help enhance UCF's existing research strengths and industry partnerships in these key areas for the state. These new faculty lines will help the College of Engineering and Computer Science reach its goal of $115 million in research funding by 2022-2023, as well as enhance the quantity and quality of the talent pipeline needed by Florida's economy. The requested $3 million in laboratory equipment upgrades and additional 16 research support lines will provide the necessary infrastructure to propel UCF's research to greater levels. The additional funds requested for the EXCEL program and bridge programs and the student assistants' support will enhance the academic credentials of the student pipeline, entering UCF, so that they are successful in their pursuit of STEM degrees that Florida's economy needs.

II. 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.*

UCF's Powering Up Florida's High-Tech Economy aligns with regional economic needs, the university's strategic plan and the Board of Governors strategic plan.

In its September 2019 report, the Orlando Economic Partnership stated the importance of "the alignments of UCF's focus on engineering and computing with the OEP's Three-Year Mission." The report further stated that UCF's plan aligns with regional efforts, including "the expansion of initiatives designed to enhance our talent ecosystem. These broad sector categories will be driven by the diffusion of key enabling technologies – ranging from 5G and distributed ledger technologies to co-biotics and extended reality – each clearly supported by UCF's enhanced E/C (Engineering and Computer Science) focus."

UCF's Collective Impact Strategic Plan includes promises designed to elevate the university, demonstrate a commitment to students, and impact our region, state and nation. Promise 2 is to "attract and cultivate exceptional and diverse faculty, students and staff" and directly relates to the hiring plan and student support enhancements. Promise 3 is to "deploy our distinctive assets to solve society's greatest challenges" and is

supported through the two mega area research foci and the talent pipeline that UCF is generating in these fields. Promise 4 is "create partnerships at every level that amplify our academic, economic, and cultural impact and reputation" demonstrated by the research partnerships detailed in Figures 1 and 2.

UCF's LBR demonstrates alignment to the Board of Governors Strategic Plan – State University System 2025 Strategic Plan by focusing on the same three core areas. Excellence is included through increased reputation of the academic programs and improved student success. Productivity is supported by research expenditures and student pipeline and diversity. The third core area, Strategic Priorities for a Knowledge Economy, is demonstrated by the selection of engineering and computer science as the area of expansion and enhancement.

The return on investment for the requested funds will be measured by progress toward the objectives and key performance targets set forth in the university's Collective Impact Strategic Plan (https://www.ucf.edu/strategic-plan/).

Through UCF's annual Accountability Plan and the institutional strategic plan implemented in 2016, the university already has a robust tracking system on progress toward its goals, using institutional data alongside statewide and national benchmarks.

These LBR investments will result in further improvements to UCF's Accountability Plan priority metrics of increasing student success, strengthening our faculty and staff and increasing our research impact by 2025.

1. **Improve quality and success**

UCF has developed college-based Accountability Plan metrics and targets. Hiring additional academic advisors and faculty will allow CECS to exceed the positive trajectory already planned for student success metrics including 4-year graduation rate, academic progress rate and excess hours rate.

In turn, this also will have a positive impact on the average cost to the student, ensuring UCF's continued affordability and high-quality education.

Metric	History	Current	Trend	Trend with Investment
CECS First-year Retention	85.5% 2013-14	91.7% 2018-19	92.1% 2022-23	*93.0%* *2022-23*
CECS Four-year Graduation Rate	21.0% 2010-14	27.4% 2015-19	33.5% 2019-23	*34.5%* *2019-23*
CECS Six-year Graduation Rate	63.8% 2008-14	63.9% 2013-19	66.9% 2017-23	*68.4%* *2017-23*
CECS Average Time to Degree	4.71 2014-15	4.51 2018-19	4.36 2022-23	*4.29* *2022-23*
CECS Percent of Students Graduating Without Excess Hours	54.2% 2014-15	67.2% 2018-19	69.7% 2022-23	*71.5%* *2022-23*

Table 6: UCF Powering-Up Florida's High-Tech Economy Metrics (Set 1)

2. Enhance the talent pipeline for a 21st-century economy

The focus on bridge programs and diverse alumni will benefit the metrics associated with diverse graduates and alumni success, including median wages of bachelor's graduates employed full-time.

Metric	History	Current	Trend	Trend with Investment
CECS Degrees Awarded	1,646 2014-15	2,249 2019-20	2,427 2022-23	*2,577* *2022-23*
CECS Graduate Diversity	34.3% 2014-15	43.9% 2018-19	45.5% 2022-23	*46.7%* *2022-23*
CECS Bachelor's First-Year Salaries	$50,780 2012-13	$58,232 2017-18	$59,300 2021-22	*$60,500* *2021-22*

Table 7: UCF Powering-Up Florida's High-Tech Economy Metrics (Set 2)

3. Grow research and economic prosperity

Faculty hires related to research of strategic statewide importance will benefit key measures of success, including research expenditures and the number of post-doctoral appointees. Benchmarks for these metrics are included in the university's Accountability Plan and additional investments will result in greater outcomes.

Metric	History	Current	Trend	Trend with Investment
CECS Research Expenditures (in millions)	$47.4 2013-14	$92.1 2018-19	$105.0 2022-23	*$115.0* *2022-23*
NSF Engineering Research Expenditure Rank (among publics)	66 2013-14	37 2017-18	32 2022-23	*Top 30* *2022-23*
NSF Computer Science Research Expenditure Rank (among publics)	25* 2013-14	10 2017-18	8 2022-23	*Top 7* *2022-23*

* Note: Ranking was Math and Computer Science combined in 2013-14

Table 8: UCF Powering-Up Florida's High-Tech Economy Metrics (Set 3)

III. 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.				

REFERENCES

1.https://www.usnews.com/news/stem-solutions/articles/2018-03-27/commentary-the-need-to-focus-on-advanced-manufacturing
2. https://www.bls.gov/ooh/computer-and-information-technology/home.htm#:~:text=Employment%20of%20computer%20and%20information,add%20about%20546%2C200%20new%20jobs.
3. https://www.gartner.com/en/newsroom/press-releases/2019-01-21-gartner-survey-shows-37-percent-of-organizations-have
4. https://www.nam.org/state-manufacturing-data/2019-florida-manufacturing-facts/

2020-2021 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II
(to be completed for each issue)

University: **University of Central Florida**

Issue Title: **UCF University of Distinction in Engineering and Computer Science**

	RECURRING	NON-RECURRING	TOTAL
Positions			
Faculty	64.00	0.00	64.00
Other (A&P/USPS)	16.00	0.00	16.00
Total	80.00	0.00	80.00
Salary Rate (for all positions noted above)			
Faculty	$10,240,000	$0	$10,240,000
Other (A&P/USPS)	$960,000	$0	$960,000
Total	$11,200,000	$0	$11,200,000
Salaries and Benefits	$14,422,400	$0	$14,422,400
Student Assistants	$2,000,000	$0	$2,000,000
EXCEL/BRIDGE/Labs	$2,000,000	$3,000,000	$5,000,000
Operating Capital Outlay	$0	$0	$0
Electronic Data Processing	$0	$0	$0
Special Category (Specific)	$0	$0	$0
	$0	$0	$0
	$0	$0	$0
	$0	$0	$0
Total All Categories	$18,422,400	$3,000,000	$21,422,400

Attachment B

State University System
Education and General
2021-2022 Legislative Budget Request
Form I

University(s):	**University of Central Florida**
Request Title:	**Keeping Florida's Tourism Economy Safe from Emerging Infectious Diseases**
Date Request Approved by University Board of Trustees:	
Recurring Funds Requested:	**$7,948,750**
Non-Recurring Funds Requested:	**$0**
Total Funds Requested:	**$7,948,750**
Please check the request type below:	
Shared Services/System-Wide Request	☐
Unique Request	☒

I. Description – *1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2020 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.*

UCF requests a recurring state appropriation of $7,948,750 for the College of Medicine. The economic prosperity of Central Florida depends on tourism and the safety of its visitors and residents. This funding will support development of an Infectious Disease and Tourism Health Initiative, which will drive increased National Institutes of Health (NIH) research funding and additional revenue to the college. These resources will bring together multidisciplinary expertise, research, education, clinical and service components to study, track and manage emerging pathogens in a community of global tourism and travel. The funding will enable key partnerships with pharma, private industry, and public entities. Funding the faculty and infrastructure for the Infectious Disease and Tourism Health Initiative will also help support the college's M.D. program and in doing so will add resources that will address accreditation requirements to demonstrate adequate financial resources.

If funded, this $7.9 million will allow us to:

- Strengthen capacity to predict and respond to pandemics that impact the tourism industry and Florida's economy
- Enhance the preparedness for care of infectious diseases through nationally recognized educational programs
- Create programs and collaborate with the College of Engineering and Computer Science (university of distinction LBR) to increase preparedness and response through technology, data, clinical sciences, and artificial intelligence
- Increase depth and breadth of faculty (17 faculty positions)
- Increase research expenditures by 20%
- Increase number of graduate students by 20%

The budget will be spent on:

- $5.5 million to hire more faculty that will:
  - Increase number of graduate students in STEM area
  - Decrease bottleneck on graduation rates in STEM undergraduate programs
- $1.3 million to support faculty, post-doctoral scientists, and students
- $1.1 million to establish a research clinical lab capable of testing
- Addressing accrediting body's support and resource requirements

Building on existing strengths:

- 25 faculty currently engaged in infectious disease research
- Dual degree biomedical engineering and biomedical sciences for undergraduate students preparing for medical school
- Joint degree program in medicine and hospitality
- Limbitless Solutions collaboration between engineering and medicine for 3-D printing of medical devices, supplies, and clinical trials

- Partnerships in medical city including Nemours, VA Orlando Medical Center, UF

Infectious Disease and Tourism Health Initiative

Much of the State of Florida's growth can be attributed to technologic advances furthering mobility of people and resources at regional, national and global levels. Expansion of travel to Central Florida by land, air and water has driven dramatic development of tourism, the hospitality industry, a wide spectrum of construction, airport resources, convention center, and cruise lines. Not fully appreciated until now is the downside to this global mobility, namely more rapid spread of contagious illnesses. The international circulation of existing and novel contagions is greatly accelerated by close human contact during travel, impacting the travelers, all employed in the travel and tourism industries, and area residents vulnerable to the community spread. The dependence of Florida's economy on health and safety aspects of travel have never been more highlighted than by the current COVID-19 pandemic. The convergence in Orlando of travel and tourism-related industries presents UCF COM a unique timely opportunity to support the state's financial viability as well as the health and safety of both residents and visitors.

UCF COM's strengths are already well-aligned to address the current and future tourism health concerns, with a strong track record of successful research in infectious disease including microbiology, viruses and other pathogens, and vaccine immunology in the College of Medicine's Burnett School of Biomedical Sciences. UCF faculty's experience in laboratory testing, high-throughput operations and pathology is also particularly relevant. UCF proposes to leverage the existing strong basic and clinical sciences to expand this research. UCF will develop evidence-based, hands-on guidance to support the tourism industry and the military.

Operationalizing the science is made possible by unique attributes of the UCF College of Medicine:

- **Burnett School of Biomedical Sciences** includes a large community of research-intensive basic scientists addressing the needs for new anti-microbial drugs and new immune-based therapies for viral, bacterial and parasitic infections.
- Burnett School researchers partner across UCF to discover and develop new technologies for the detection of pathogens, and novel surface treatments that can protect large populations from exposure to pandemic organisms.
- **COM Department of Population Health Sciences** includes clinical epidemiology and other public and community health disciplines, and social determinants of health and health care delivery.

In addition to these attributes of the College of Medicine, the university offers partnerships that contribute other resources across UCF:

- **College of Engineering** is internationally recognized for new technologies in surfaces, coatings, materials, advanced devices and systems engineering, biomedical engineering, environmental, and computer modeling.
- **Rosen College of Hospitality** is in the top-two global rankings for expertise integral to tourism, and will benefit not just large corporations but also small local businesses.
- **Department of Psychology** is world renowned as an authority and advisor to industry for industrial operations and human factors.
- UCF clusters
    - **Sustainable Coastal Systems** investigating the impact and structure of Florida's coastal systems on the emergence of infectious organisms including impact on the cruise industry.
    - **Genomics and Bioinformatics** focused on identifying emerging pathogens, understanding the genetic basis of disease, and developing statistical models to analyze disease transmission.

    - **Cybersecurity and Privacy** working with businesses and government to address human and technological security and privacy issues critical in pandemics or disasters.
- **Nanoscience Technology Center** developing novel sensing nanoparticles and vaccine adjuvants to promote anti-SARS immunity.
- **UCF Academic Health Sciences Center** is expanding with the 2021 opening of the UCF Lake Nona Medical Center university hospital bringing an even wider scope of interdisciplinary research, education and clinical services (e.g. the College of Nursing with the training of nurses and nurse practitioners).
- **Orlando VA Medical Center** and **SimLEARN**, the national VA simulation center, are partners located adjacent to the UCF College of Medicine in Medical City.
- **The National Center for Simulation** located in the UCF partnership complex is the nation's central hub for the organizations leading America's military simulation training and modeling efforts including commands from the Army, Navy, Marine Corps, and Air Force.

The essence of the UCF COM proposal is to advance infectious disease and tourism/travel health by expanding and refocusing our research and educational programs to serve the community and industries.

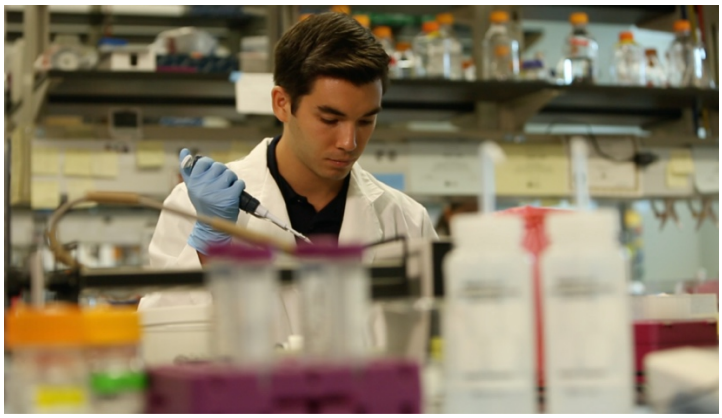
This initiative strengthens:

- UCF's biomedical collaborations across basic science, clinical and applied sciences for infectious diseases and readiness to address the spread of novel and emerging pathogens.
- UCF's integration with community partners, providing evidence-based support for best practices in preparedness and remediation.
- Physician training in emerging and pandemic infectious diseases.
- The pipeline of medical lab technicians in BSBS who are trained in cutting edge technologies.

- The ability to carry out clinical infectious disease testing in an accredited facility.

Advancing the UCF Strategic Plan

The Infectious Disease and Tourism Health Initiative and strengthening of the UCF College of Medicine is very strongly aligned with the *UCF Collective Impact: Strategic Plan*. The College of Medicine will continue to "deploy our distinctive assets to solve society's greatest challenges" while serving our communities and "create partnerships at every level that amplify our academic, economic, social, and cultural impact and reputation." UCF has identified several five- and twenty-year objectives to measure transformational impact. These include doubling research awards and generating economic, social, and cultural impact – all of which will be advanced through the strengthening of the UCF College of Medicine. With UCF's demonstrated commitment to major partnerships, the value of the Infectious Disease and Tourism Health Initiative's educational and research activities will be increased exponentially through its current and future partnerships.



Essential Resources

This legislative budget request will allow UCF to keep Florida's tourism economy safe from emerging infectious disease while providing needed resources to support the medical school and its accreditation. The UCF COM is the lowest funded medical school per student in Florida.

II. 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.*

This LBR request addresses a critical social, human, environmental, and economic needs of Florida. Investment in the Infectious Disease and Tourism Health Initiative and strengthening of the UCF College of Medicine will leverage previous UCF and state investments and bring many benefits to students, the university, the state, and society at large. In this time of COVID-19, the ability to increase the output of trainees will allow us to address future crises with adequate professionals. We will grow research in critical areas related to infectious disease to have greater impact on the resolution of future crises. The knowledge gained from the research and the better educated professionals will provide a higher level of clinical care to step up in future catastrophes. The current situation presents UCF COM a unique timely opportunity to support the state's economy as well as the health and safety of both residents and visitors.

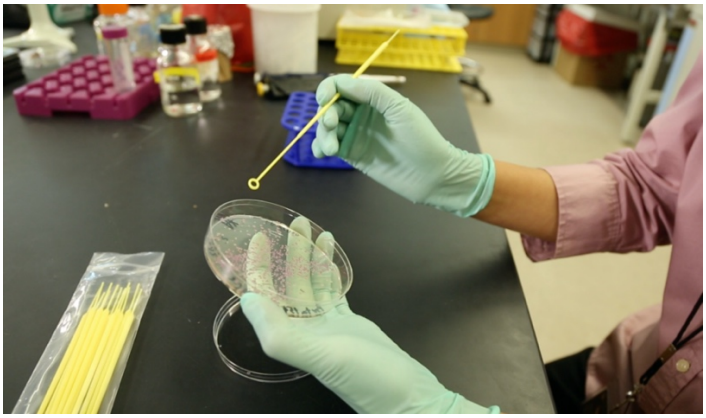
Additionally, the investment in the UCF College of Medicine would bring its funding to an equitable level relative to the other newer medical schools in the state. In accreditation site visits, UCF COM has been repeatedly cited for lack of adequate resources. This funding will demonstrate to the accrediting body state support for our medical school. The additional faculty hires and college resources made possible by this funding will demonstrate the state's commitment to the UCF College of Medicine. This critical investment in infectious disease and tourism health will have broad economic impact, strengthening not only the Florida state university system, but also society at large.

III. 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.	N/A			

In summary, the requested state funding would allow UCF COM to:

- Develop a critically needed Infectious Disease and Tourism Health Initiative bringing expertise in identifying and managing the rapid spread of existing and novel emerging pathogens in an environment of international tourism and travel.
- Provide evidence-based best practices to secure the health, safety and financial viability of the travel, tourism and hospitality industries and our communities.
- Partner across UCF and with public and private industry to accomplish our goals.
- Continue a successfully accredited medical education program and prepare future physicians to understand and address emerging infectious diseases such as the novel coronavirus.
- Invest in needed faculty to maintain and update the STEM and M.D. education program curriculum.



2021-2022 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II
(to be completed for each issue)

University: **University of Central Florida**

Issue Title: **UCF College of Medicine Funding including Infectious Disease and Tourism Health**

	RECURRING	NON-RECURRING	TOTAL
Positions			
Faculty	5,525,000	0	5,525,000
Other (A&P/USPS)	1,300,000	0	1,300,000
Total	6,825,000	0.00	$6,825,000
Salaries and Benefits	$6,825,000	$0	$6,825,000
Other Personal Services	$0	$0	$0
Expenses	$1,123,750	$0	$1,123,750
Operating Capital Outlay	$0	$0	$0
Electronic Data Processing	$0	$0	$0
Financial Aid	$0	$0	$0
Special Category (Specific)	$0	$0	$0
_____	$0	$0	$0
_____	$0	$0	$0
_____	$0	$0	$0
Total All Categories	$7,948,750	$0	$7,948,750

Attachment C

State University System
Education and General
2021-2022 Legislative Budget Request
Form I

University(s):	**University of Central Florida**
Request Title:	***UCF RESTORES***
Date Request Approved by University Board of Trustees:	
Recurring Funds Requested:	
Non-Recurring Funds Requested:	**$1,050,000**
Total Funds Requested:	**$1,050,000**
Please check the request type below:	
Shared Services/System-Wide Request	☐
Unique Request	☐**X**

I. Description – *1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2020 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.*

Background and Services to Date:

UCF RESTORES provides treatment and resiliency services at no cost to Florida's veterans, active duty personnel, first responders, and survivors of sexual assault, mass shootings or natural disasters.

Treatment Services: Our innovative three-week intensive outpatient treatment program, where personnel are treated three per day, five days per week, is the only program of its kind in the country. The program includes the use of virtual reality (sights, sounds, and smells) to enhance the effects of the therapy and we have seen remarkable success.

To date, we have treated 550 veterans/active duty personnel, 350 first responders (law enforcement, firefighters, emergency medical technicians/paramedics, and emergency dispatchers), sexual assault survivors, as well as Florida residents who are survivors of the Pulse nightclub, Las Vegas and Parkland mass shootings. Using the same "success" criteria as the VA, 67% of veterans and 77% of first responders no longer meet diagnostic criteria for PTSD after three weeks of treatment and they maintain their treatment gains six months later (with no further treatment). These results are superior to 1st line

treatment outcomes at the VA – where outcomes range from 31-42% no longer having a diagnosis.

Resiliency Services: Our very popular peer support trainings continue as well and to date, we have provided this training (at no cost) to over 75 police/fire/sheriff departments throughout the state of Florida, training well over two hundred peer supporters.

Additionally, on October 1, 2018, the workman's compensation law for PTSD went into effect. That bill included a statement that every first responder had to receive one hour of training in identification, mitigation and treatment of posttraumatic stress disorder. After receiving numerous calls from first responder agencies throughout the state, requesting that UCF RESTORES help them fulfill this requirement, we developed two one-hour on-line training videos (one for firefighter/EMS and one for law enforcement) that have been distributed (at no cost) to over 300 agencies and viewed by approximately 2000 first responders.

As illustrated, RESTORES is well-aligned with the university's strategic plan. UCF has challenged its faculty to create partnerships that allow them to make a distinctive impact on the community. We have developed several distinctive partnerships, including our partnerships with the Florida Firefighters Safety and Health Collaborative and the National Police Foundation's Center for Mass Violence Response Studies. We also provide opportunities for undergraduate and graduate training with several unique populations.

Initiative	Total
UCF RESTORES Treatment Program	$850,000
On-line Suicide Prevention Curriculum	$100,000
Red Line Rescue, Blue Line Rescue and Front Line (Veteran) Rescue apps	$100,000

A. Continued operation of the UCF RESTORES treatment program at current locations., $850,000

In the last year alone, we completed over 4939 hours of therapy for Florida's veterans, first responders and survivors of mass violence (at no cost to participants). As a result of the COVID-19 pandemic, the volume of requests from the first responder community is increasing. This request is to cover services at our Orlando and Brevard Clinics. It includes salaries and fringe benefits for 5 masters level therapists, 1 care coordinator, 2 receptionists/medical records specialists, 4 graduate students (who assist in providing treatment), 1 business specialist, 1 program manager, 2 outreach personnel and housing costs for veterans and first responders who live outside the greater Orlando area but attend our 21 day intensive outpatient program. It also includes all operational costs for the clinic including electronic health record costs, maintenance of computers, printers, virtual reality equipment, consumable supplies such as diagnostic assessment materials, patient workbooks needed for treatment sessions, copy paper, telephone, etc. The request will allow the clinics to continue to function for another year.

B. Develop an on-line suicide prevention curriculum for populations at risk, $100,000.

Twenty-two veterans a day commit suicide. More first responders complete suicide than die in the line of duty and unfortunately, the constant stress of the COVID-19 pandemic has increased the rate of suicide. In addition, there are reports of a significant increase in completed suicide in the Panhandle as a result of the continuing challenges following Hurricane Michael.

David Rozek Ph.D. has joined the faculty of UCF RESTORES in January 2020. His specialty is suicide and PTSD. We are requesting funding for two initiatives. First, as noted in the background section of this request, in October 2018, we produced one-hour training videos on education, mitigation and treatment of PTSD (so that agencies could be consistent with the new Workman's Compensation Law for PTSD in first responders). To address the issue of suicide prevention, we are requesting funding to produce similar videos on suicide education, prevention and treatment. We would do four versions for four communities in Florida that are at risk: adolescents, first responders, veterans and the LBGTQ+ community. The length and content of these videos will vary dependent upon the population, but the message will be consistent: to reach those who contemplating suicide are, and to reach others to equip them to ask the difficult questions and know what to do with the answers. The videos will be distributed at no cost to agencies

This request directly addresses the priority of suicide prevention for vulnerable populations, particularly in light of the ongoing pandemic.

C. Build, deploy and maintain the Red Line Rescue, Blue Line Rescue and Front Line (Veteran) Rescue apps, $100,000

Red Line Rescue currently exists as a prototype and is a collaboration between the Florida Firefighters Safety and Health Collaborative and UCF RESTORES. Its purpose is to link firefighters/EMTs who are in distress and/or suicidal with a fellow firefighter who is trained in peer support. It will also allow the firefighter to find a therapist who is culturally competent and trained in the provision of evidence-based trauma treatments.

In addition to the programming, coding, and digital art needed to produce an actual app, there will be a need for clinicians to design the questions that the app will determine the scope of the problem (e.g., substance abuse, PTSD, suicide) and more important, vet/train the peer support personnel and clinicians who will be matched through the app. Having a well-trained therapist, who is also trained in first responder or veteran culture, is crucial. When these individuals finally break through the stigma and ask for help, more damage is done if the therapist is well-meaning but ill-informed and ill-equipped. Once Red Line Rescue is online, the back end and engine will be able to be easily converted to Blue Line Rescue (police) and Front-Line Rescue (vets).

This initiative addresses the critical need of suicide prevention through the online provision of peer supporters and the identification of culturally competent, trauma informed therapists. If the first therapist that a first responder encounters is not prepared to deal with their level of trauma and "fires them", the likelihood that they will seek out another therapist decreases rapidly.

II. Return on Investment - *Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. <u>Be specific.</u> 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.

The requested funding is projected to impact several of UCF's performance metrics.

UCF RESTORES' response to community needs is demonstrable. We are called to assist in a variety of traumatic events throughout our community, including deploying to police or fire stations when there is a first responder suicide or "bad" event. We have worked with mass shooting victims throughout the state. We continue to be the treatment center for veterans who cannot go to or do not want to the VA for treatment. Graduate and undergraduate students are integrated into all aspects of the treatment program, providing them with unique educational opportunities.

In addition to the 22 veterans a day who complete suicide, each year, more first responders complete suicide than die in the line of duty. In addition to the personal and familial loss from suicide, the community loses as well – a person dedicated to helping the community and a highly trained community responders. There are effective programs for suicide prevention but they are not readily available. Developing and launching a suicide prevention program will allow Florida's heroes to continue their contributions to the community.

In terms of return on investment, it cannot be overstated that a key outcome of RESTORES' work is to allow the state to retain its critical group of first responders by allowing them to recover from their trauma-related injuries and return to the workplace. Not only does this improve the quality of life for these heroes, it has a substantial economic impact in terms of savings from the recruitment and training of replacement personnel. It has been estimated that up to 35% of police sick-time claims are due to the consequences of stress. Similar rates have been reported for firefighters. Obviously, this results in millions of dollars in cost to the agencies. Alarmingly, this rate appears to be increasing yearly. Additionally, the National Labor Organization reports that 63% of first responders who leave the workplace cite stress as a key factor in their decision. Recruiting replacements is both difficult and costly. Many agencies are suffering from an inability to even identify qualified personnel. When replacements are found, it is estimated that the costs of training can approach $20,000 per person.

In summary, providing a first-class educational opportunity, combined with helping these worthy public servants, further combined with substantial cost savings results in a tremendous outcome for our citizens.

III. 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.				

2021-2022 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II
(to be completed for each issue)

University: **University of Central Florida**
Issue Title: **UCF RESTORES**

	RECURRING	NON-RECURRING	TOTAL
Positions			
Faculty	0.00	0.00	0.00
Other (A&P/USPS)	14.00	0.00	14.00
Total	14.00	0.00	14.00
Salaries and Benefits	$0	$825,000	$825,000
Other Personal Services	$0	$0	$0
Expenses	$0	$225,000	$225,000
Operating Capital Outlay	$0	$0	$0
Electronic Data Processing	$0	$0	$0
Financial Aid	$0	$0	$0
Special Category (Specific)	$0	$0	$0
_____	$0	$0	$0
_____	$0	$0	$0
_____	$0	$0	$0
Total All Categories	$0	$1,050,000	$1,050,000