



---

**OPEN SESSION**

**FOR INFORMATION ONLY**

(No formal action is requested at this time)

1. Chair's Remarks  
*Julia Grumbles, UNC-CH Board of Trustees*
2. Creativity Hubs  
*Terry Magnuson, Vice Chancellor for Research*
3. Harmonization of Modernizing Student Support and The New Learning Initiative  
*Abigail Panter, Senior Associate Dean for Undergraduate Education*  
*Christi Hurt, Assistant Vice Chancellor for Student Affairs and Chief of Staff*

**COMMITTEE MEMBERS**

**Julia Sprunt Grumbles, Chair**  
**Kelly Matthews Hopkins, Vice Chair**  
**Jefferson W. Brown**  
**W. Lowry Caudill**  
**Allie Ray McCullen**  
**Hari H. Nath**

***Administrative Liaison:***

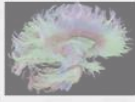
***Bob Blouin, Executive Vice Chancellor and Provost***  
***Judith Cone, Vice Chancellor for Innovation, Entrepreneurship, & Economic Development***



**CreativityHubs**

**UNC BRAIN Initiative**

- Building painkillers that lack addictive qualities (Bryan Roth)
- Turning on genes to cure autism spectrum disorders (Ben Philpot & Mark Zylka)
- Innovating non-invasive treatments for brain disorders (Flavio Frolich)
- Developing treatments for Alzheimer's disease
- Discovering new ways to treat overeating



Basic	Translational	Clinical	Population-based
<ul style="list-style-type: none"> <li>Cariology and periodontology</li> <li>Craniofacial biology and development</li> <li>Materials and cell guided bone and muscle regeneration</li> <li>Molecular and genetic basis of acquired and congenital craniofacial dysmorphologies</li> <li>Molecular &amp; genetic basis</li> </ul>	<ul style="list-style-type: none"> <li>Fluoride metabolism and pharmacogenomics</li> <li>HIV/AIDS associated oral diseases</li> <li>Kaposi's sarcoma-associated herpesvirus (KSHV) and immunity</li> <li>Fluorescence-aided caries excavation (FACE)</li> <li>Large Animal Models</li> </ul>	<ul style="list-style-type: none"> <li>Dental materials</li> <li>Cleft Lip/Palate outcomes, quality of life, orthopedics</li> <li>Oral and cranio-facial 3D imaging</li> <li>Orthognathic surgery outcomes</li> <li>Oral Cancer</li> <li>Chronic Pain</li> <li>Caries</li> <li>Nano-Crystalline</li> </ul>	<ul style="list-style-type: none"> <li>Early childhood caries pediatric and health services interventions</li> <li>Social determinants of health / disparities</li> <li>Oral health literacy</li> <li>Oral health and aging</li> <li>Education-based research</li> </ul>

**Cosmology – Gravity**

What is the ultimate theory of gravity?  
 What is dark matter?  
 Origin of original conditions?  
 What is dark energy?  
 Cosmological limits on neutrino mass

**Astronomy-Astrophysics**

First structure?  
 Origin of the elements (BBN & stars)?  
 Mass inventory (DM, gas, DE)?  
 Dark energy?  
 Exoplanets & life?

**Nuclear**

Origin of heavy elements?  
 Why more matter than antimatter? (EDM for a fundamental particle?)  
 Neutrino mass/properties/interactions  
 Why is strong C/P so small? (Is there an axion?)  
 Properties of quark-gluon plasmas?  
 Spin and mass of nucleon

**Particle**

Source of the matter/antimatter asymmetry?  
 What is the nature of dark matter?  
 What is the mass and nature of neutrinos  
 New standard model (BSM)?

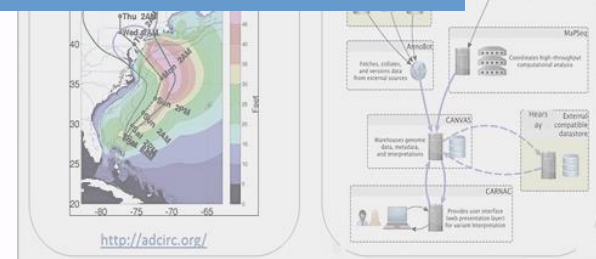
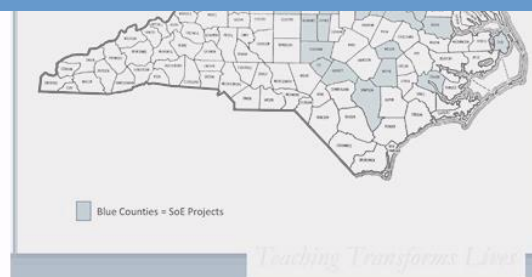
**COSMS INSTITUTE**

# What is Research at Carolina?

Bi-weekly meetings with research Deans and Pan-Campus Center directors have informed:

- Key research strengths/priorities
- Common thematic areas for inter-disciplinary collaboration

Impacting



# Six Strategic Research Priorities



## **BRAIN**

Structure, behavior, development, disease



## **CANCER**

Diagnosis, therapies, social determinants,  
environmental & behavioral effects, bioethics



## **DATA SCIENCE**

Integration/application of data tools/methods  
to solve complex problems



## **ENVIRONMENT**

Natural systems, global change, resilience, health



## **OPPORTUNITY, WELL-BEING and CULTURE**

Access to opportunities & elucidation of  
relationships to outcomes



## **PRECISION HEALTH and SOCIETY**

Tailoring development of therapies and delivery  
of interventions

# **Creativity Hubs**

## **Process for Award of Pilot funding**

### **Stage 1: Request for Ideas (Pre-Proposal)**

- **Selected teams will be awarded up to \$5000 per team for 3 months to build full proposal**
- **OVCR provides support for further team building, work plans, sustainability plan**

### **Key Criteria:**

- **Innovation**
- **Convergence**
- **Sustainability**
- **Program management plan**



# Campus Participation

Metrics		Number
Proposals Received		38
UNC Faculty/Researchers Involved on Proposals <i>(all UNC collaborators)</i>		194
UNC Schools/Colleges Represented in Proposals		10
UNC Departments Represented in Proposals		35
UNC Centers	Total UNC Centers Represented in Proposals	22
	VCR's Pan-campus Centers Represented in Proposals	10
Non-UNC institutions Partnering in the Proposals		11



## 4 levels of review:

- Research Deans & pan-campus Center/Institute leadership
- Faculty Committee on Research
- OVCR leadership team
- Provost

## 7 Selected Pre-Proposals

# Programmable design of tissue-mimetic materials

Ronit Freeman, Kevin Guskiewicz, Sivakumar Jaikumar, Frank Leibfarth, Matthew Lockett, Sergei Sheiko, Richard Superfine, and Melissa Troester

Creating a data-driven platform for designing and making bio-mimetic materials to be used in individually tailored medical devices and implants





# Sustainable access to safe water: Graphene-polymer nanocomposite membranes for water purification, energy production and storage

**Orlando Coronell, Theo Dingemans, Greg Forest, Benny Freeman (UT Austin), Cass T. Miller, and Jill Stewart**

Developing novel, affordable and scalable graphene-polymer nanocomposites as membranes for water purification, energy generation, and energy storage applications



# Heterogeneity in Obesity: Transdisciplinary Approaches for Precision Research and Treatment

Christy Avery, Anna Bardone-Cone, Silvana Barros, Ethan Bausch, Vicki Bautch, Diane Berry, John Buse, Ian Carroll, Kimon Divaris, Elizabeth Frankenberg, John E French, Rebecca Fry, Penny Gordon-Larsen, Annie Green Howard, Steve Hursting, Michael Kosorok, Craig Lee, Jennifer Leeman, Leslie Lytle, Sriram Machineni, Katie Meyer, Kari North, Sally Stearns, Susan Sumner, Deb Tate, and Steve Zeisel

Investigating heterogeneity of the etiology of obesity and its clinical health consequences and responses by conducting integrated science across basic, clinical, and population research



# Advancing Data Science to Generate Insights for Treatment of Chronic Diseases

Roger Akers, John Buse, Tim Carey, Stephen Cole, Michael Emch, Sandra Greene, Michael Hudgens, Michele Jonsson Funk, Alex Keil, Michael Kosorok, Ashok Krishnamurthy, Peter Leese, Alex Tropsha, and Til Stürmer

Applying novel statistical models to drive healthcare predictive analytics, inform clinical decision-making, and optimize chronic disease treatment



# UNC Exposome Hub

Stan Ahalt, Sarav Arunachalam, Arlene Chung, Lawrence Engel, Stephanie Engel, Barbara Entwisle, Elizabeth Frankenberg, Michel Gagné, Greg Gangi, Amelia Gibson, Kathleen Gray, Leslie Hicks, Ralph House, Ilona Jaspers, Jeffrey Johnson, Ashok Krishnamurthy, Matthew Lockett, Kun Lu, Gary Marchionini, Javed Mostafa, Shahriar Nirjon, David Peden, Cor Rademaker, Arcot Rajasekar, Matthew Redinbo, Lea Shanley, Sergei Sheiko, Melissa Troester, Cyrus Vaziri, and Marcey Waters

Examining long-term effects of environmental exposure by combining development of modular sensors with data tools and analytics to identify potential clinical solutions and develop decision support systems to improve health and disease treatment

# Incubator for Data Engagement and Action (IDEAhub)

Daniel Anderson, Melanie Feinberg, Jordynn Jack, Tessa Joseph-Nicholas, Ketan Mayer-Patel, and Jane Thrailkill

Bridging humanists and data scientists by providing better access to data tools and methodologies, and developing interventions that correct or limit misinformation to improve social media exchanges and influence public policy on science and health



# Chemical Biology of the Epigenome Initiative (CBEI)

Ian Davis, Robert Duronio, Stephen Frye, Lindsey James, Dmitri Kireev, Pengda Liu, Gregory Matera, Shaun McCullough, Daniel McKay, Samantha Pattenden, Ken Pearce, John Sondek, Brian Strahl, and Marcey Waters

Addressing “how epigenetics contribute to life” by utilizing chemical biology tools to empower researchers to gain insights in epigenetics to advance fundamental understanding in biology and pathways to treat disease



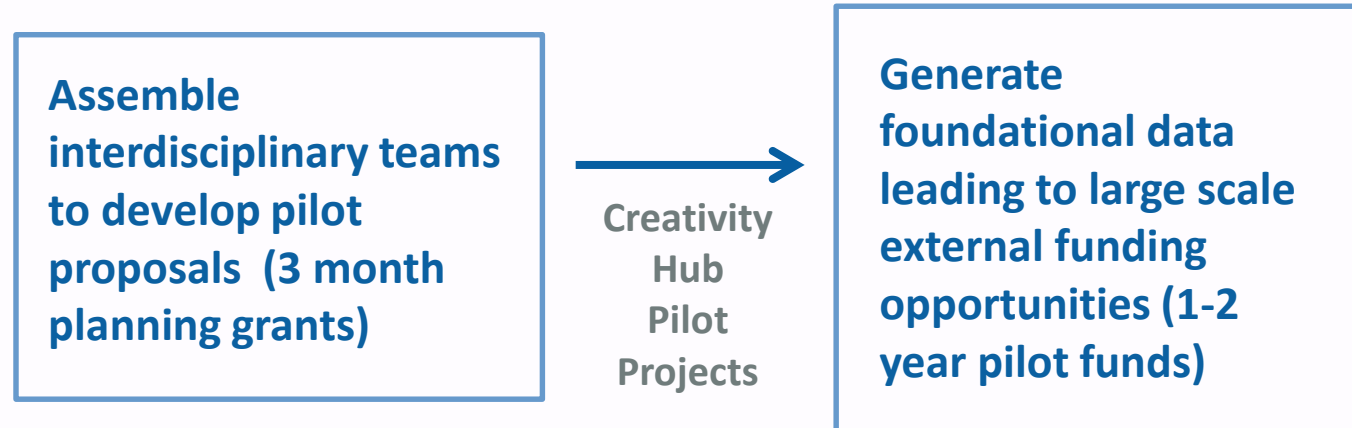


## Stage 2: 7 Pre-proposal teams submit full proposal

- 2 teams awarded up to \$250,000 per year for 2 years
- Each team to provide public presentation of their proposals
- Review
  - Research Deans, pan-campus Center/Institute leadership, outside experts
  - Faculty Committee on Research
  - OVCR leadership team
  - Provost
- Full proposals are due on March 12, 2018
- Notification of Award: April 16, 2018

## Next steps

# Creativity Hubs



## OUTCOME

*Convergent Research:*

Solve emerging problems and shape the future through innovation & collaboration





THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

# Harmonizing: Modernizing Student Support and the New Learning Imperative

*Interim Report to the Strategic Framework Committee of  
the Board of Trustees, 1.31.18*

# Vision for Modernizing Student Support

Guided by the Chancellor's Blueprint for Next, the Modernizing Student Support Working Group led by co-chairs Christi Hurt (Students Affairs) and Abigail Panter (Undergraduate Education) identified three themes:

**BLUE SKY** to Career, Clear Path to Graduation, and Significant Transitions.

---

## We believe student support should be...

### Student-Centered

We must empower our students to act as agents to experience all that a UNC education offers and design systems to that end.

### Holistic

Career, academic, life-skills, care services, and other aspects of student development are closely inter-related; services provided must be integrated.

### Seamlessly Delivered

Students currently face many obstacles on the path to success. We must be in the business of removing them.



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

# Vision for the New Learning Imperative

Also guided by the Chancellor's Blueprint for Next, the New Learning Imperative Working Group is led by Fouad Abd-El-Khalick (Education), Kevin Guskiewicz (College of Arts & Sciences), and Ben Edwards (Art & Science Group).

---

**To prepare graduates for the new economy and contemporary life, we believe learning should be...**

## Personalized

Instruction, curricula, and learning should be tailored to a student's needs, interests, preferences, aspirations, and cultural background.

## Experiential

Students engage in authentic experiences in their fields of study, potential future careers, and the community.

## Collaborative

To prepare for a lifetime of problem solving and creativity, students must learn to work effectively across different groups, contexts, and settings.



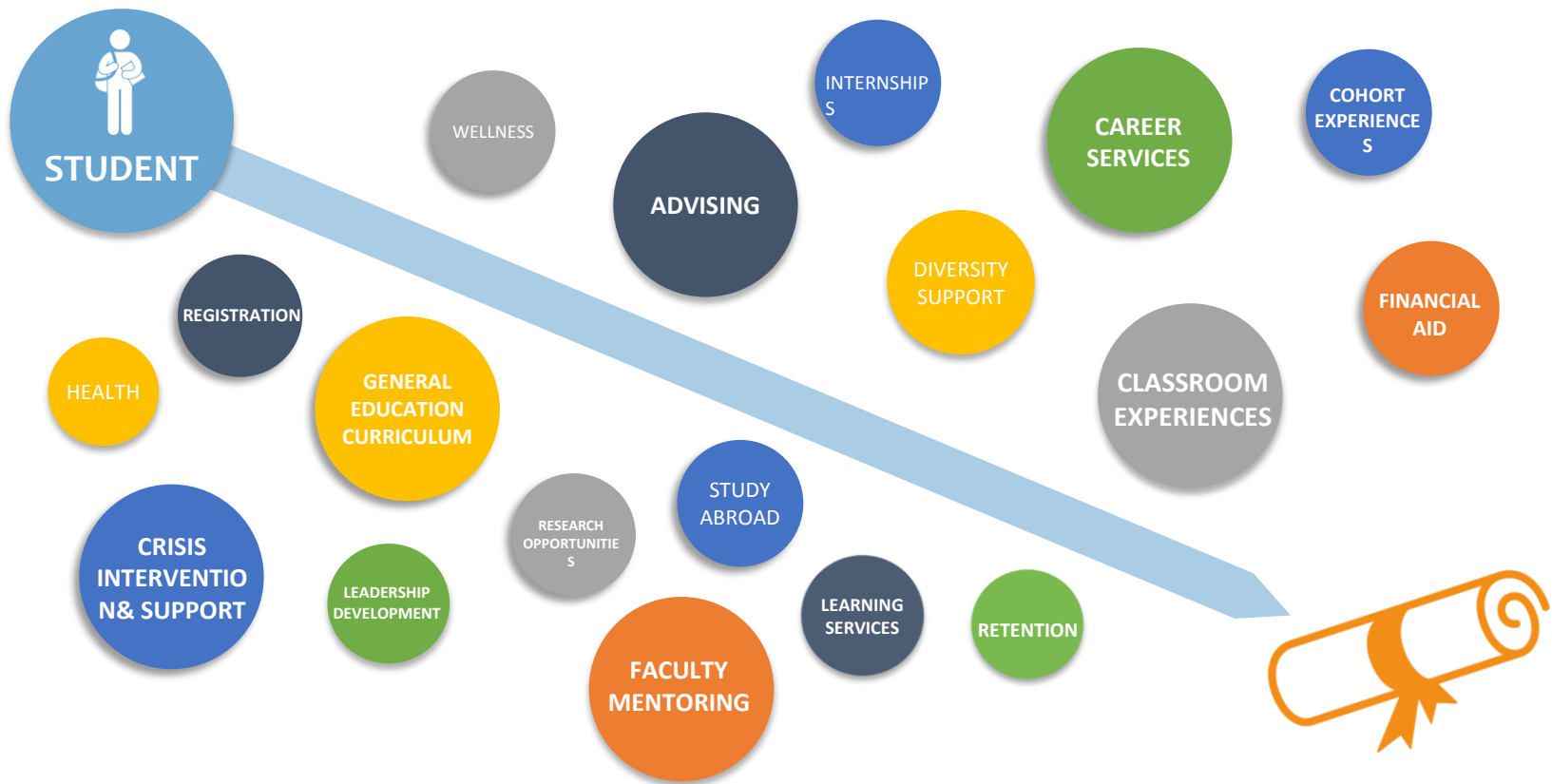


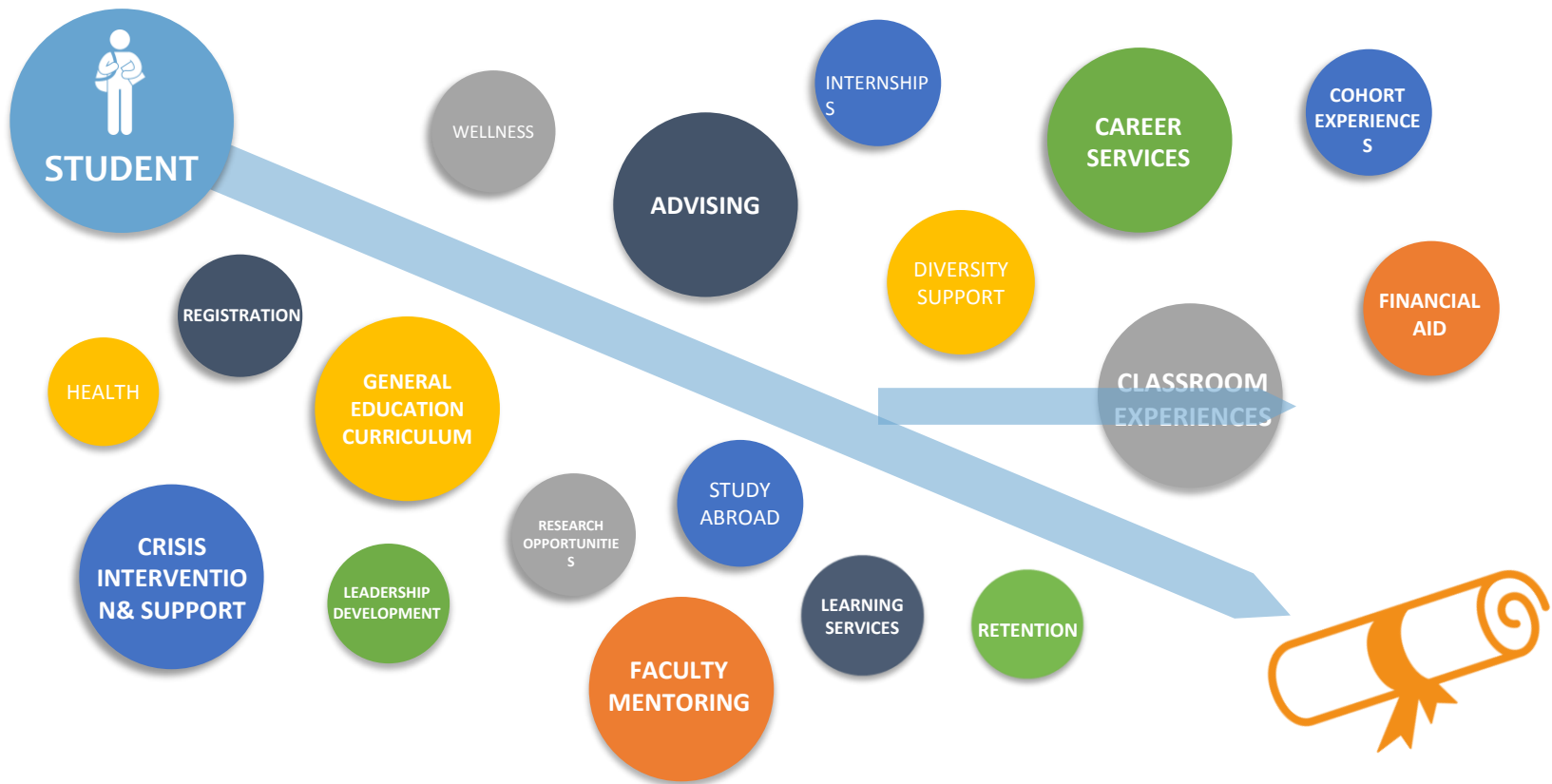
# Core Elements of the Carolina Experience

**As a Carolina student, you will be actively encouraged and guided to:**

- Develop expertise in your primary discipline and breadth of understanding of evidence, inquiry, creation, and discovery across a range of other disciplines (the overarching academic experience).
- Be known by a faculty member, by name and for your individual story.
- Map, with staff and advisors, a clear pathway from matriculation to graduation.
- Access systems that enable you to make use of timely and accurate information about support, academics, and careers.
- Engage deeply in authentic experiences in your fields of study, potential future career areas, and the community.
- Learn to collaborate effectively with others.
- Invest yourself as a person in something you are studying.
- Create a unique product you can claim as your own.







# 1. Commit to



**BLUE SKY** is the process we have undertaken for the past two years to dream of a new way to help students succeed in career education, academic advising, and student support.

**THRIVE@Carolina** aligns with the BLUE SKY goals, is highly visible and student-facing, and provides an opportunity for Carolina to implement student support strategies set forth by the Chancellor.



## 2. Start Early

- **Develop a University 101 course and/or modular courses** using evidence-based approaches and grounded in student development theory. We want to engage students about successfully navigating through Carolina, their own leadership development trajectories, and student wellness.
- **Create connection points to career services** at the student's earliest engagement with the University and at strategic points along their education trajectory.
- **Use modern media** to create accessible and engaging introductions to careers.



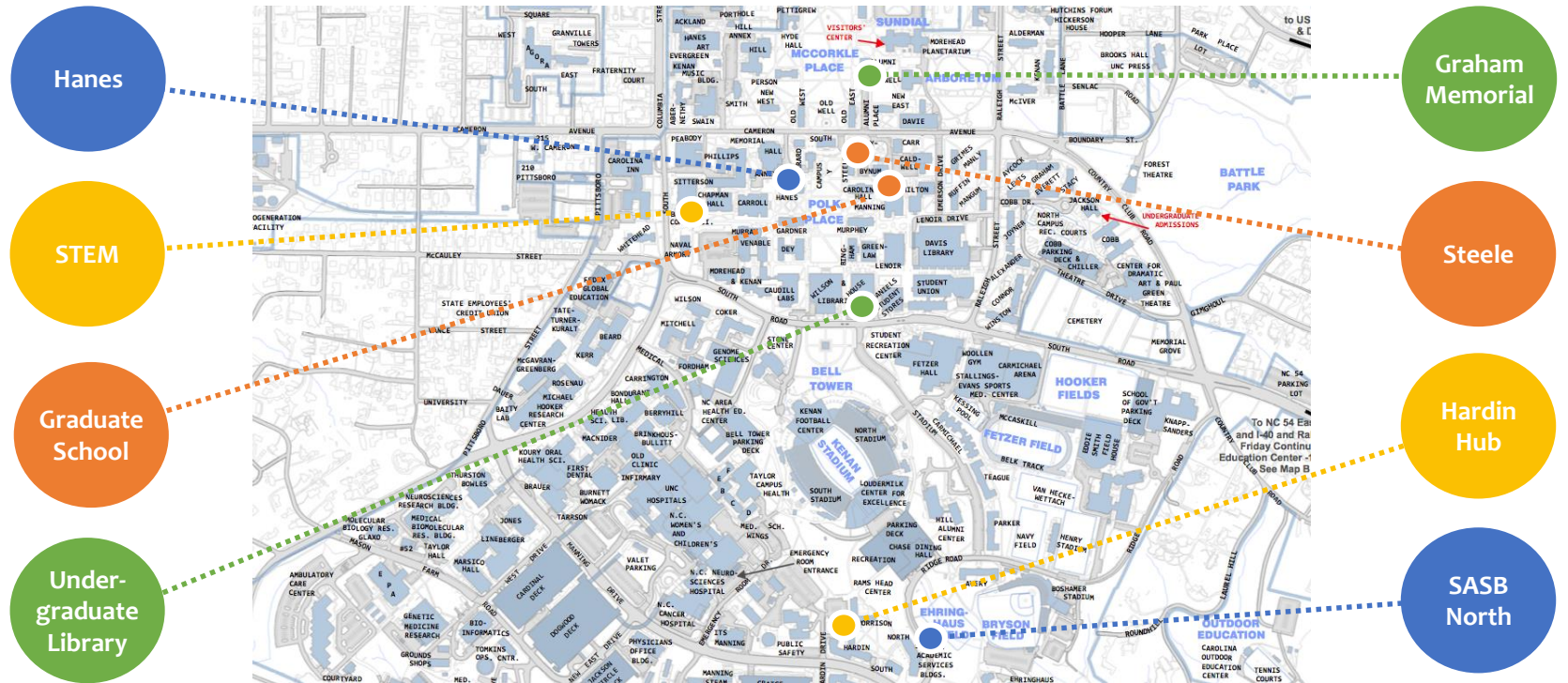


### 3. Reimagine Advising

- **Integrate Career Education & Academic Advising** for all first year students and transfer students during orientation and first two years at UNC to emphasize post-graduate readiness.
- **Support and incentivize faculty engagement** in student success at Carolina.
- **Create** THRIVE Guides program, based on UNC College Advising Corps model.
- **Develop** THRIVE@Carolina Success Hubs.



# THRIVE@Carolina Potential Success Hub Locations



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

## 4. Innovate Systems

- Develop **innovative, shared, and comprehensive processes, and the systems to support them.** These systems include student success tools and degree audit across the institution to coordinate student-facing processes and competency tracking.
- Help students to create and track **individual development plans.**
- Improve tracking of **first destination surveys** to include data related to student mobility. Incorporate first destination into a required undergraduate exit survey.
- Allow all Carolina alumni **to keep their UNC email indefinitely** to enhance lifelong commitment to the University.



# The Integrated Blue Sky Initiative



## **Engaging Faculty and Supporting the Teacher-Learner Experience:**

Articulate qualities of effective, student-centered instruction/inquiry, support faculty in their instructional practice redesign, and build a bank of curricular, instructional, and assessment resources and tools.



**Advising, Sequential Learning, and Tracking:** Create a combined academic-career-personal advising network and a qualitative/quantitative student progress tracking system.



**Beyond the Classroom:** Integrate existing and new efforts to engage students in authentic experiences outside the classroom in workplaces, organizations, industries, and communities.



**Consistency:** Align all current and proposed curricular and student-support initiatives around the core elements and measurable outcomes of *Blue Sky*.

