WILLIAM & MARY

CHARTERED 1693

ACADEMIC LANDSCAPE

BOV Retreat

July 2022

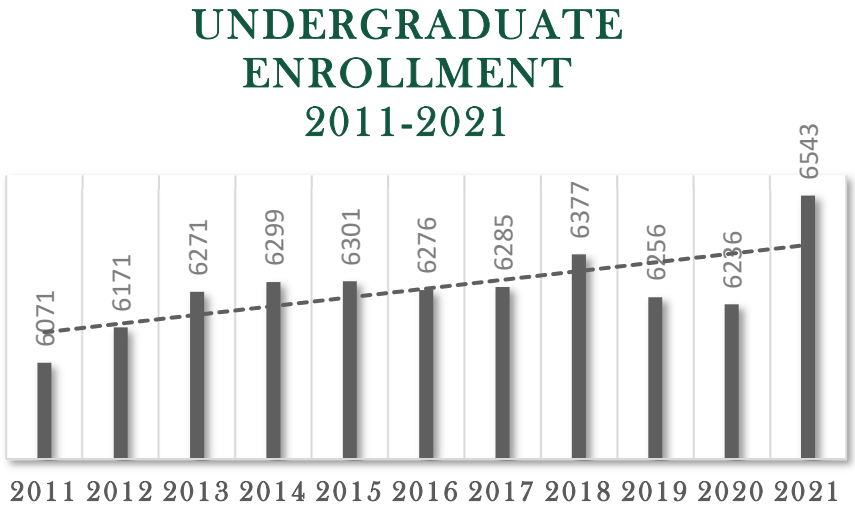
DATA-INFORMED PLANNING

- Allows us to understand the **past**, evaluate the **present**, and strategize and evolve the **future**
- A provost-led **Data Initiative Taskforce** works on creating a framework that provides a baseline of data points and trends for analysis and reporting related to teaching and research, as well as faculty and students, across the university

PROJECTING FORWARD

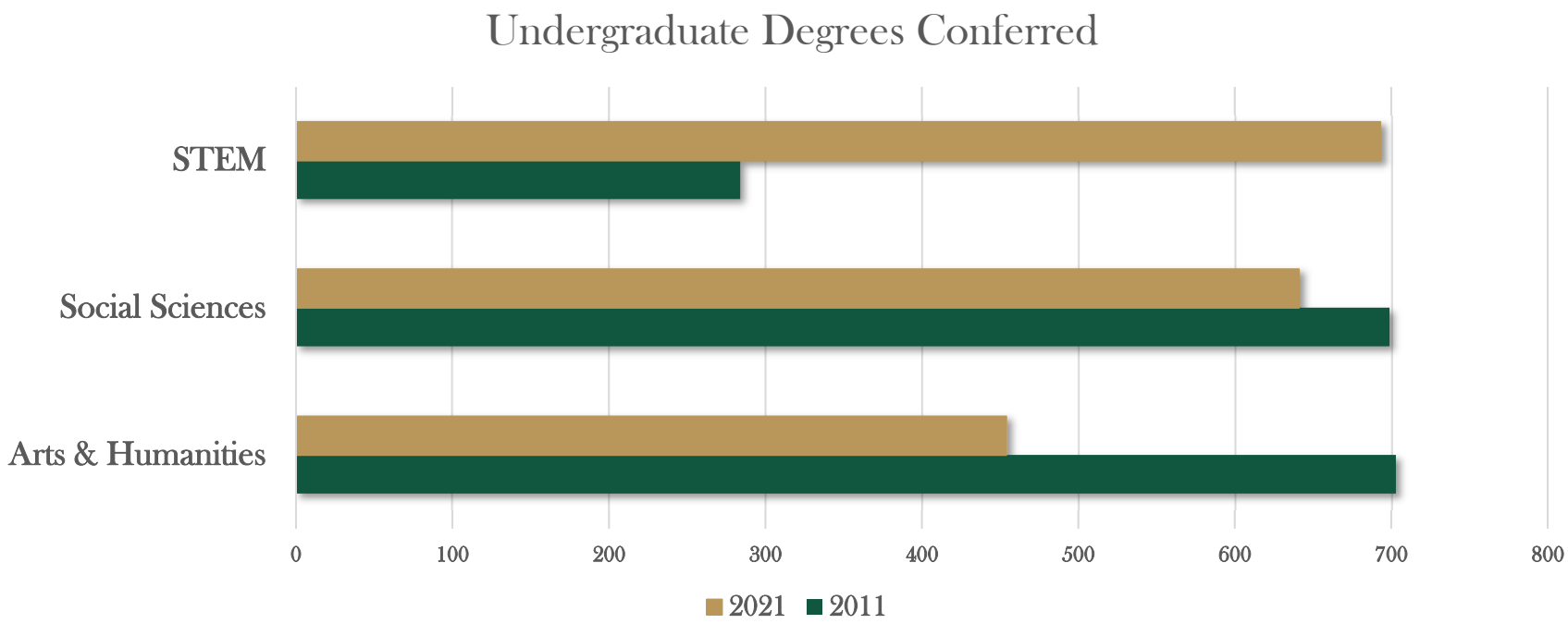
- Using data on enrollment and degrees conferred over time provides key indicators of trends in:
  - student interest and demand
  - areas of academic strength
  - faculty interest and activity
  - market and workforce needs

LOOKING BACK: UNDERGRADUATE

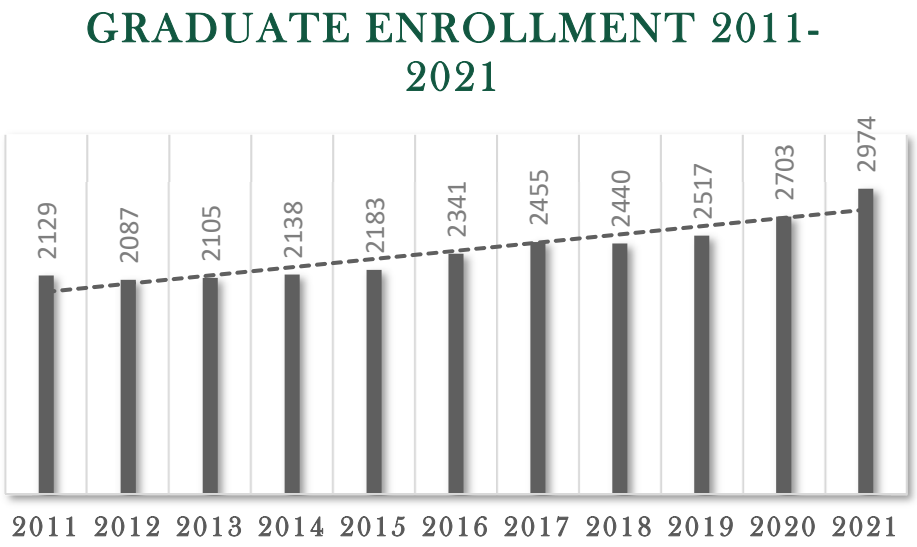


- Our undergraduate population has grown by 8% over the last decade
- W&M's undergraduate population is primarily served by Arts & Sciences
- The Mason School of Business and the School of Education accept undergraduates after their initial coursework in Arts & Sciences

10-YEAR TREND



LOOKING BACK: GRADUATE



- Our graduate population has grown by 40% over the last decade
- Breakdown of graduate headcount by academic unit (Spring 2022):
  - Business 1090
  - Education 794
  - Law 653
  - Arts & Sciences 346
  - Marine Science 95

EVOLVING FOR THE FUTURE: SUSTAINABLE CURRICULUM INITIATIVE

- 2020-2022: Provost-led data, analysis and planning reset
- Fully implemented, ongoing process in each school, led by deans, to manage programs and resources for students and faculty
- Ensures that each school's curriculum:
    - meets the needs of current students
    - anticipates the needs of future students
    - advances W&M mission, vision and values

SUSTAINABLE CURRICULUM BENEFITS

- Provides a mechanism for identifying potential new opportunities and programs
- Surfaces potential synergies and areas for collaboration across academic units
- Positions the academic enterprise to respond effectively in the current (and future) fiscal environment
- Supports strategic planning and data-informed decision-making

OUTCOMES GOING FORWARD

- Cancel or shift rotation of courses with historical under-enrollment
- Reevaluate or restructure degree programs with historical trends for low student interest
- Identify popular courses that could be increased in class size without sacrificing quality
- Identify core curricular needs for students interested in particular tracks to make sure necessary courses are available
- Balance undergraduate and graduate courses within academic units
- Explore consolidating coursework to ensure quality and create efficiencies
- Develop new coursework in interdisciplinary programs that will release enrollment pressures in departments

DATA-INFORMED PLANNING IN ACTION

- **W&M Computing, Data Science & Engineering**
  - Internal and external data indicate a unique opportunity:
    - growing current student interest
      - interest in computational fields at W&M has more than tripled in the last 10 years, going from 219 declared majors to 722
      - Computer Science and Data Science have together grown 68% in declared majors since 2020
    - demonstrated W&M faculty strength in both instruction and research
    - significant market need in the mid-Atlantic region – graduates do not meet current workforce demand
    - excellent career paths with high salary potential

DEFINING INTEREST, NEED & CAPACITY

Expanding computational offerings will help W&M meet student and industry demand, grow enrollments and broaden workforce connections across Virginia and the Mid-Atlantic region.

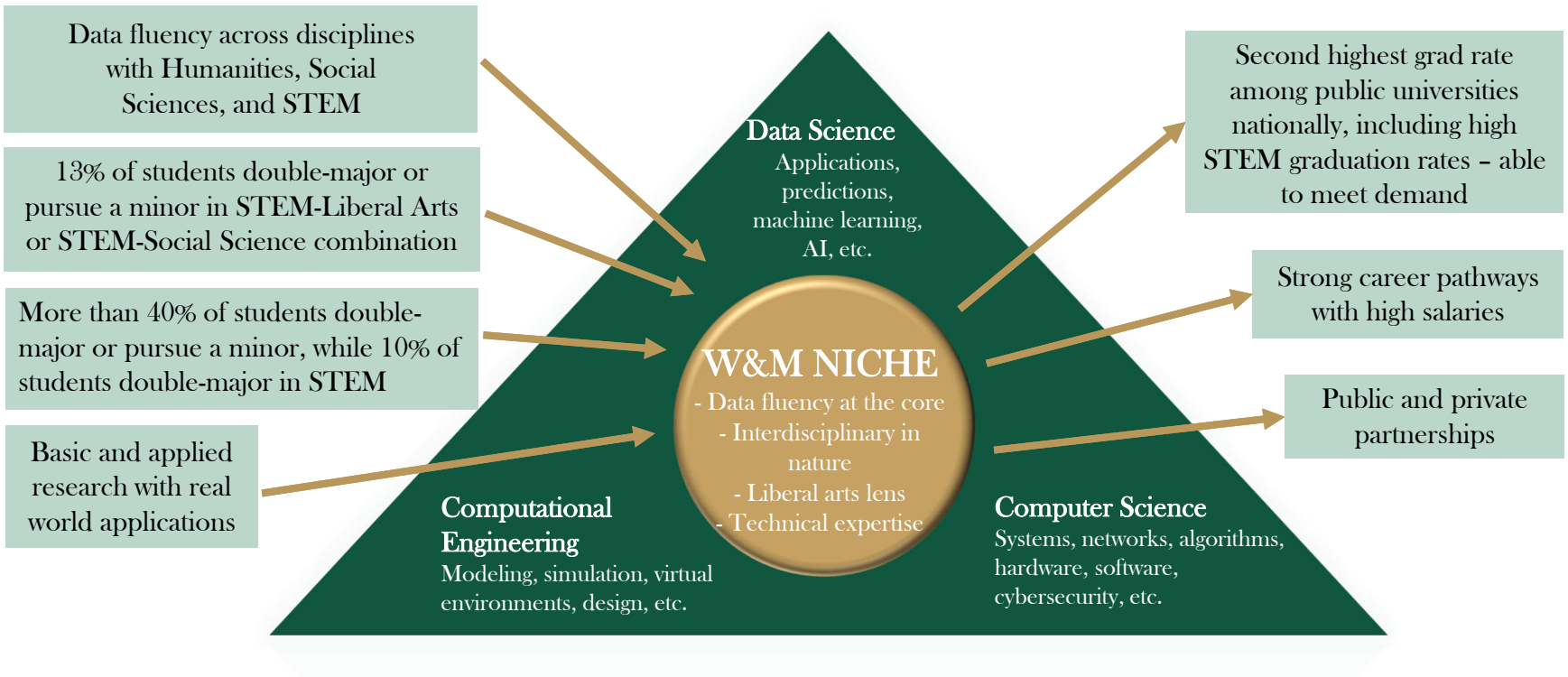
- W&M has **a strong foundation** of student interest to build from in computing/data science fields
- Current enrollments in data science, computer science, and adjacent programs experienced nearly **50% growth since 2016**

- Market demand and unmet need exist regionally and nationally, especially for **well-rounded candidates**
- Career outcome potential is strong in this field: significant **job growth** regionally and nationally with high paying positions

- VA universities are **not keeping pace** with producing graduates in the fastest growing degrees nationally
- Other VA schools focused on traditional engineering, while what is called for is **an interdisciplinary approach**

- W&M produces **well-rounded problem solvers** with strong critical thinking, writing and speaking skills
- W&M is uniquely qualified to create a niche by **combining liberal arts and STEM** into the computational fields – no one regionally is doing it

W&M'S LIBERAL ARTS APPROACH PROVIDES A COMPETITIVE ADVANTAGE TO STEM



Drawing upon different aspects of W&M's core values and student experiences can create a unique environment for computing, data science and engineering that other institutions without a strong liberal arts foundation are unable to replicate

GROWING DEMAND IN COMPUTATIONAL FIELDS

Major	2016 Enrollment	2021 Enrollment	Percent Change
Biology	359	422	14%
Computer Science	215	299	39%
Data Science	19*	120	>200%
Physics	94	108	15%
Business Analytics Data Science	29	105	>200%
Computational & Applied Math & Statistics	35	48	38%
Business Analytics Supply Chain	3	20	>200%
Total	**735**	**1122**	**49%**

*Data from 2020 when major was first available; data from W&M Fact Book

EXISTING W&M CAPABILITIES

Existing Faculty:

More than 20 faculty with engineering degrees

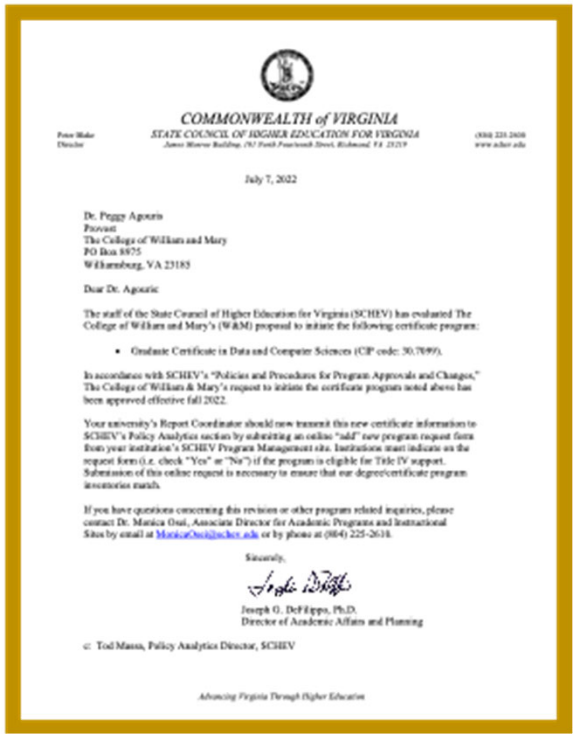
More than 40 faculty with degrees in computational sciences

New Facility: Integrated Science Complex IV (2024)

Needed: Investment in faculty positions and additional space

SCHEV APPROVED THIS MONTH

- Graduate certificate in Data and Computer Sciences
  - Response to immediate and critical industry need
  - Stackable credential to potentially lead to MS in Computer Science



COMMONWEALTH of VIRGINIA

STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA

July 7, 2022

Dr. Peggy Agouris
Provost
The College of William and Mary
PO Box 8795
Williamsburg, VA 23185

Dear Dr. Agouris

The staff of the State Council of Higher Education for Virginia (SCHEV) has evaluated The College of William and Mary's (W&M) proposal to initiate the following certificate program:

- Graduate Certificate in Data and Computer Sciences (CIP code: 30.7099).

In accordance with SCHEV's "Policies and Procedures for Program Approvals and Changes," The College of William & Mary's request to initiate the certificate program noted above has been approved effective fall 2022.

Your university's Report Coordinator should now transmit this new certificate information to SCHEV's Policy Analytics section by submitting an online "add" new program request form from your institution's SCHEV Program Management site. Institutions must indicate on the request form (i.e. check "Yes" or "No") if the program is eligible for Title IV support. Submission of this online request is necessary to ensure that our degree/certificate program inventories match.

If you have questions concerning this revision or other program related inquiries, please contact Dr. Monica Osei, Associate Director for Academic Programs and Institutional Sites by email at MonicaOsei@schev.edu or by phone at (804) 225-2610.

Sincerely,

Joseph O. DeFilippo, Ph.D.
Director of Academic Affairs and Planning

c: Tod Massa, Policy Analytics Director, SCHEV

Advancing Virginia Through Higher Education

Next Steps