Transforming an Institutional Culture
Integrating Undergraduate Research, Scholarship, and Creative Activity into the Fabric of The College of New Jersey

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TCNJ
THE COLLEGE OF NEW JERSEY

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TCNJ School of Science

Five Academic Departments

• Biology
• Chemistry
• Computer Science
• Mathematics & Statistics
• Physics

& Self-designed majors
& Many interdisciplinary programs/connections

Enrollment

~1,100 student majors
~15,500 student enrollments in courses
SCHOOL OF SCIENCE @ TCNJ

science.tcnj.edu
Institutionalizing URSCA at TCNJ

Example Mechanisms

• One of TCNJ’s five signature experiences.
• A comprehensively transformed curriculum.
• A comprehensive faculty work load system.
• Inclusion into the documents and practices associated with faculty reappointment, tenure, and promotion.
• A council within the shared governance system.
• A full-immersion summer program—MUSE, or Mentored Undergraduate Summer Experience.
• An institutional grant program, providing faculty with additional re-assigned time for scholarship.
• An endowed professorship in faculty–student scholarly engagement.
• An annual conference—The Celebration of Student Achievement.
• An annually published Journal of Student Scholarship.
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Academic Transformation at TCNJ

Reconceptualizing Learning

Student Role

Student Work

Faculty Work

Faculty Role
TCNJ Case Study Overview

Academic Transformation at TCNJ

• Transformation of Student Work
• Transformation of Faculty Work
• Aligning Faculty Workload and T&P

Transforming Student Work

Goals

• Develop programs that **intellectually challenge** students

• Interact with students both in and out of the ‘classroom’

• Convey a strong sense of **inquiry** and how knowledge is acquired in the disciplines

• Thoroughly assess student learning **outcomes**
Transforming Student Work

Overview and Summary

• “Transformed” the entire College curriculum, providing students with more rigor, more flexibility, and credit for high-impact, engaged learning experiences
  ❖ Basic course “foot print” did not change
  ❖ Focused on learning outcomes, not seat time

• Comprehensive effort with an ambitious timeline
  ❖ Transformed general education, first-year experience, and all majors curricula in 18 months

• Subsequently, the Science programs have integrated research experiences into courses vertically through the four-year curriculum
Transforming Student Work

Overview and Summary

• Shifted from a credit hour-based system to a course unit-based system

• Transformed each course to be focused on learning outcomes, not seat time or content – each course unit effectively became a 4-credit hour course

• Institutional ideal for course distribution
  ❖ 1/3 in liberal learning
  ❖ 1/3 in the major
  ❖ 1/3 in a second major, minor(s), or unrestricted electives
# Transforming Student Work

## Curriculum Comparison

<table>
<thead>
<tr>
<th>Old Credit-based System</th>
<th>New Course-based System</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 classes per semester</td>
<td>4 classes per semester</td>
</tr>
<tr>
<td>10 classes per year</td>
<td>8 classes per year</td>
</tr>
<tr>
<td>Typical class is 3 credits</td>
<td>Typical class is 4 credits</td>
</tr>
<tr>
<td></td>
<td>(1 course unit)</td>
</tr>
<tr>
<td>120-128 credit hours needed to graduate</td>
<td>32-34 courses needed to graduate</td>
</tr>
</tbody>
</table>
Goals

• Shift from a teaching & research culture to a teacher-scholar culture

• Provide **clear expectations** about scholarship and especially the integration of teaching and scholarship

• Promote **intellectual exchange** among the faculty

• Provide **time and resources** for faculty to engage students and participate in the advancement of their fields
Overview and Summary

• Shifted from a traditional teaching load system to a comprehensive faculty work load system

• Provided in-load credit for:
  - Engaging students outside of the classroom in high-impact learning experiences, including URSCA
  - Mentoring and advising
  - Scholarship
  - Course design and curriculum development

• Reconceptualized the 4:4 teaching load – shifted to a 3:3 course load
# Transforming Faculty Work

**“Load” Comparison**

<table>
<thead>
<tr>
<th>Pre-Transformation</th>
<th>Post-Transformation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traditional “Teaching Load” System</strong></td>
<td><strong>Comprehensive “Faculty Workload” System</strong></td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Spring</strong></td>
</tr>
<tr>
<td>Course 1 = 3 FWH</td>
<td>Course 1 = 3 FWH</td>
</tr>
<tr>
<td>Course 2 = 3 FWH</td>
<td>Course 2 = 3 FWH</td>
</tr>
<tr>
<td>Course 3 = 3 FWH</td>
<td>Course 3 = 3 FWH</td>
</tr>
<tr>
<td>Course 4 = 3 FWH</td>
<td>Course 4 = 3 FWH</td>
</tr>
<tr>
<td><strong>Total Teaching Load = 24 FWH</strong></td>
<td></td>
</tr>
</tbody>
</table>

| Scholarship | Typical Service |
| Advising/Mentoring | Self-selected overload (paid) |
| Typical Service | |
| Self-selected overload (paid) | |
Aligning Workload and T&P
Aligning Workload and T&P

Recognizing and Rewarding the Faculty Role

TCNJ has adopted a teacher-scholar culture, where URSCA is integrated in our faculty workload model and in our Tenure & Promotion documents/policies.

- **Mentoring/teaching component** – Transparent and equitable system for recognizing student mentoring in classroom-based pedagogies and in traditionally ‘outside of load’ high-impact pedagogies (e.g., research, internship, practicum, studio, etc.) within our workload model.

- **Scholarship component** – Scholarship is included ‘in-load’ in our workload model and our department/program-based “Disciplinary Standards for Scholarship” include language about student engagement and outcomes in T&P documents.
Teaching, example language characterizing high-caliber, effective teaching

- “incorporation of one's scholarship into teaching, when appropriate, including the effective supervision of student research and the incorporation of students into one's scholarship, when appropriate;”
- “commitment to all levels of the curriculum, including First Seminars, liberal learning, introductory courses …”
- “attention to student learning outcomes that help develop students as successful…’
- “purposeful experimentation with one's pedagogy in ways that foster engaging educational environments that are characterized by …”
- “creation and/or revision of courses and curricula in ways … built around a shared commitment to scholarly inquiry”
“We recognize a range of scholarly modes including the Scholarship of: Discovery, Integration, Application, Pedagogy, Artistic Expression.”

“We value scholarship that crosses departmental boundaries and that integrates a variety of approaches, theories, methodologies, and practices.”

“We value scholarship that... involve TCNJ students in a scholarly manner or are connected to our role in the larger community.”

“The standards that mark excellence in scholarly/creative/professional activity may differ significantly among disciplines and even sub-disciplines. It is not possible to define in this document what these standards are in every discipline; instead, the accepted Disciplinary Standards of the appropriate department(s) and program(s)”
Disciplinary Standards for Scholarship – Guiding Principles

• Alignment with Key Institutional Documents and Values

• Categories of Acceptable Scholarly/Professional/Creative Work

• Criteria to Evaluate Different Types of Scholarly/Professional/Creative Work

• **Scope, Quality, Importance, and Coherence of Scholarly/Professional/Creative Program**
  - Indication of the value of student involvement in, or the contribution to, scholarly/professional/creative work

• **Authorship**
  - Clear identification of the role played by and value of student engagement in the scholarly/professional/creative work
Transformational Impact
Institutionalizing URSCA at TCNJ

Structural & Cultural Changes

• Began by **defining the learning environment** we desired.
  - Framed our conversations around the respective roles of students and faculty members needed to achieve our desired learning environment.
  - Defined guiding principles.
  - Defined and revised our curricula (liberal learning and departmental).
  - Shifted to a teacher-scholar faculty model and culture.
  - Shifted from a “teaching load” system to a holistic “workload” system.
  - Revised our T&P documents and processes to recognize and reward what is important and align these with our values.
Selected Outcomes

• Increased student recruitment, retention, graduation, and placement rates.
  ❖ Overall and for underrepresented students.
• Increased student learning.
  ❖ Internal & external measures; doctoral completion rates.
• Strengthened the intellectual environment / climate.
• Strengthened faculty recruitment and retention.
• Increased faculty proposal submission and funding rates.
• Increased philanthropic support.
Institutional Culture

Alignment

- It’s critical to align:
  - Mission
  - Student Role and Expectations
  - Curriculum
  - Faculty Role and Expectations
  - Faculty Workload and Rewards
Evaluate \( \int_0^{x^2} dx \) by interpreting the integral in terms of areas.
QUESTIONS & DISCUSSION
To Cite this Work