

Microcredentials to Advance Flexible, Individualized Learning in Academic Medical Centers

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UPSTATE
 MEDICAL UNIVERSITY

BACKGROUND

Microcredentials (MCs) have evolved in higher education and professional development as an accessible method to acquire and validate knowledge and skills in a shorter time frame and circumscribed domain than degrees. They have not yet been widely adopted in medical or health professions education or academic medical centers (AMCs). MCs complement degrees, certificate programs and graduate education,^{1,2} may stack toward degrees, and foster work-based learning and advancement. Microcredentials provide a mechanism for AMC's to support the professional development of hospital/shared service employees, expanding the concept of a "teaching hospital." AMCs endeavor to support individualized and flexible learning for students, residents, faculty, and staff; MCs offer a flexible and innovative mechanism to support the learning continuum.

APPROACH

The State University of New York (SUNY), a recognized leader in advancing MCs, encourages its 64 campuses to create them.^{3,4} Upstate Medical University (Upstate), one of four SUNY AMCs, embraced MCs as an innovative way to advance individualized learning across the university, within its colleges (medicine, nursing, health professions, and graduate studies), the clinical system, and work force. A MC policy developed by faculty governance and the office of academic affairs in 2018, adopted SUNY's definition of a MC:

- *Competency-based, reflecting skills and competencies mastered;*
- *Endorsed by the issuing institution;*
- *Developed through local faculty governance processes;*
- *Meaningful and of high quality, with learning standards, assessments, and documentation of skills mastered that have meaning beyond one classroom, one program or the institution.*

The policy outlines procedures for developing MCs and includes an application template and flowchart.



Sponsors may propose credit-bearing and non-credit-bearing MCs. Credit-bearing MCs may stand alone or may contribute to a larger certificate or degree program. A non-credit-bearing MC recognizes achievement in continuing/professional development or co-curricular experiences. Once an MC is earned, a digital badge is awarded through a proprietary web-based digital badging system. Digital badges represent authenticated achievement and can be uploaded to networking platforms such as LinkedIn.

DESIGN

Upstate's first MC - Pharmacy Clinical Research - was created for the Pharmacy Residency; 44 residents have completed it to date.⁵ This was later extended to include pharmacists. Eight MCs were created in 2021, five in 2022, and nine in 2023. All colleges have created MCs for students. In the College of Medicine, five MCs were created for medical students: research, rural medicine, physician advocacy, clinical anatomy instruction, and neuroanatomy/neuroscience instruction. One leadership MC has been created for faculty and four leadership MCs for staff. The Medicine Residency Program added a MC in quality improvement and patient safety. Others are listed in the table below. MCs for medical students help them differentiate themselves when they apply to residency; leadership MCs for faculty and staff have enhanced workplace performance.

Microcredential Name	College/Dept	Target Audience
Academic Program Leadership Development	CON	Faculty
Advanced Excel for Administrative Professionals	PDL	Staff
Anatomy Instruction	CGS	Students or Staff
Basics of Behavioral Supports	CHP	Students or Staff
Clinical Anatomy Instruction	COM	Medical Students
Foundations of Understanding Equity, Inclusion, and Bias in Academic Medicine	COM	Faculty
Evidence Based Practice Scholar	PDL	Staff
Excellence in Medical Quality Improvement and Patient Safety	COM	Residents
Faculty Leadership Essentials for Academic Development	COM	Faculty
Introduction to Biostatistics and Epidemiology	COM	Students or Staff
Leading Others	PDL	Staff
Leading Self	PDL	Staff
Learning to Lead	PDL	Staff
Learning to Lead for Nurse Manager Succession	PDL	Staff
Medical Student Research	COM	Medical Students
Neuroanatomy/Neuroscience Instruction	COM	Medical Students
Nursing Research Workshop Series	PDL	Staff
Pharmacy Clinical Research	COM	Residents
Physician Advocacy	COM	Medical Students
Post-Acute Respiratory Care	CHP	Students or Staff
Quality Scholars	COM	Students or Staff
Rural Medicine	COM	Medical Students
Teaching Strategies and Skills for Upstate Faculty	COM	Faculty

KEY
 CGS = College of Graduate Studies
 CHP = College of Health Professions
 COM = Alan and Marlene Norton College of Medicine
 CON = College of Nursing
 PDL = Professional Development & Learning

CONTACT

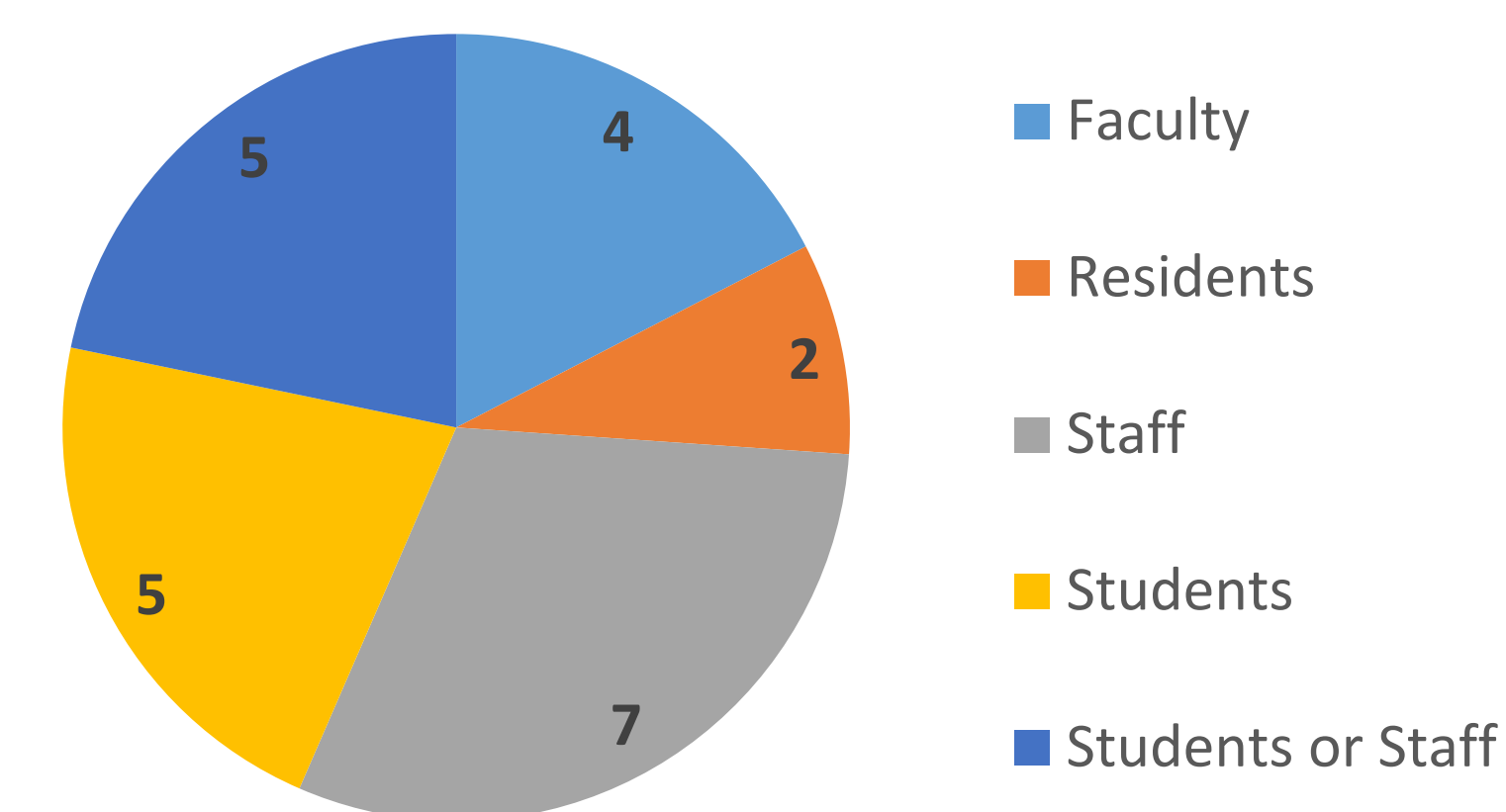
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OUTCOMES

To date, 209 individual MCs have been earned.

Microcredential	Total Completed
Advanced Excel for Administrative Professionals	22
Basics of Behavioral Supports	1
Faculty Leadership Essentials for Academic Development	27
Leading Others	16
Leading Self	42
Learning to Lead	20
Medical Student Research	11
Neuroanatomy/Neuroscience Instruction	2
Pharmacy Residency Clinical Research	44
Rural Medicine	16
Teaching Strategies and Skills	8
Grand Total	209

Microcredential Offerings by Target Audience



DIGITAL BADGES: In 2022, Upstate contracted with Credly®, a proprietary web-based digital badging system to award MC recipients digital badges. A digital badge is a type of credential that allows the recipient to show validated skills and competencies that they have gained through learning experiences. Digital badges give an opportunity for the recipient to share their abilities online in a form that is simple, trusted, and can be easily verified in real time. Badges provide employers and peers concrete evidence of what MC recipients had to do to earn their credential. In addition, as a way for students to differentiate themselves from other students, MCs approved by the colleges are represented on the student transcript.



PROGRAM EVALUATION

Microcredentials undergo regular assessment of participant learning outcomes to ensure academic rigor. As part of the application process, MC sponsors describe how they will periodically evaluate their MC.

ASSESSMENT OF MICROCREDENTIALS

Assessment based upon:

- Enrollment
- Completion
- Participant evaluation of MC, including relevance to career
- Assessment of learner outcomes
- Sponsor assessment of how it meets market or workforce need
- May need content/market expert review

Administrative Support:

- Academic Affairs
- Frequency:**
 - Every 3 years
- Responsibility:**
 - Curriculum and faculty governance for academic MC's
 - Professional Development Microcredential Committee for non-academic MC's
- Process:**
 - MC sponsor completes template
 - Committee reviews and provides feedback to MC sponsor

CONCLUSIONS

Using MCs to advance flexible, individualized education and professional development in AMCs is feasible and easily reproducible. There is great opportunity to research the added value of MCs in higher education and particularly in medical, nursing, and health professions education.

All but one of Upstate's 23 MC are offered internally. Future offerings could be developed in partnership with other organizations, universities, or industries to create a workforce with updated skills responding to the needs of each organization and community.

Microcredentials expand educational opportunities across the university and individualize and increase interprofessional education for students, residents, faculty, and staff. Flexible and accessible, they are "manageable but meaningful" per participant surveys. There must be an infrastructure to ensure success, including policy and procedures, a formal approval process, and an office to administer the process.

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