



Council for the Advancement of Standards in Higher Education

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We are pleased you are interested in the Standards and Guidelines developed by the Council for the Advancement of Standards in Higher Education (CAS). This CAS member association has permission to post a link to this standard on their website. Standards are developed through a consensus model of member associations and other experts, including the association on whose page this link is found. You are invited to use the attached CAS statement in the design and assessment of your programs and for your staff training and development. *This statement may not be duplicated for other purposes without permission from CAS.*

This standard and all other standards are available along with information on self-assessment procedures in the most recent edition of the *CAS Professional Standards for Higher Education* book. You are particularly encouraged to examine the learning and developmental outcomes (see www.cas.edu and in the standards book) in the design and assessment of your programs.

This standard has a Self Assessment Guide (SAG) available for purchase from www.cas.edu for use in program evaluation.

CAS MISSION STATEMENT

The mission of the Council for the Advancement of Standards in Higher Education (CAS) is to promote the improvement of programs and services to enhance the quality of student learning and development. CAS is a consortium of professional associations who work collaboratively to develop and promulgate standards and guidelines and to encourage self-assessment.

CAS STANDARDS AND GUIDELINES

Each CAS standard contains 14 common criteria categories (referred to as “general standards”) that have relevance for each and every functional area, no matter what its primary focus. In addition to the general standards, all functional area standards are comprised of both specialty standards and guidelines. All standards use the auxiliary verbs “**must**” and “**shall**” and appear in **bold print** so that users can quickly identify them. Guidelines are designed to provide suggestions and illustrations that can assist in establishing programs and services that more fully address the needs of students than those mandated by a standard. CAS guidelines appear in regular font and use the auxiliary verbs “should” and “may.”

OVER THIRTY YEARS OF PROFESSIONAL SERVICES

The Council for the Advancement of Standards in Higher Education (CAS) has been the pre-eminent force for promoting standards in student affairs, student services, and student development programs since its inception in 1979. For the ultimate purpose of fostering and enhancing student learning, development, and achievement and in general to promote good citizenship, CAS continues to create and deliver a dynamic and credible Book of Professional Standards and Guidelines and Self-Assessment Guides that are designed to lead to a host of quality-controlled programs and services. These standards respond to real-time student needs, the requirements of sound pedagogy, and the effective management of 40 functional areas, consistent with institutional missions. Individuals and institutions from nearly 40 CAS member organizations comprise a professional constituency of over 100,000 professionals.

DISCLAIMER

The standards and guidelines published in “The Book of Professional Standards for Higher Education” by the Council for the Advancement of Standards in Higher Education (CAS) and referred to in each of the “CAS Self-Assessment Guides” (SAGs) are developed through the voluntary efforts of leaders of professional associations in higher education. The purpose of the standards and guidelines is to identify criteria and principles by which institutions may choose to assess and enhance various areas of their academic, administrative, or student affairs programs and services. CAS specifically disclaims any liability or responsibility for any perceived or actual shortcomings inherent in the text or application of the standards. Further, CAS does not certify individuals nor accredit programs. No institution, whether it has met some or all of the CAS standards, is authorized to indicate that it is “approved, endorsed, certified, or otherwise sanctioned by CAS.” Institutions that have conducted a self-assessment of one or more functional areas addressed by CAS Standards and Guidelines using the appropriate CAS Self-Assessment Guide (SAG) may, where that self-assessment provides evidence that an institution meets these standards, are free to make accurate representations to the effect that the designated program or service meets the CAS Standards.

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202-862-1400, (email contact: Phyllis Mable, Executive Director, www.cas.edu)

THE ROLE of UNDERGRADUATE RESEARCH PROGRAMS

CAS Standards Contextual Statement

Colleges and universities have long recognized the value of student scholarship as the culminating hallmark of an engaged and successful undergraduate career. Research experiences and creative practice projects—conducted in collaboration with and/or under the mentorship of concerned and dedicated faculty—have the potential to be transformative, moving our undergraduates to deeper understanding of and engagement with the world around them. Undergraduate research and creative practice also provide an important measure of cumulative student learning (AAC&U, 2007).

This position of the Association of American Colleges and Universities crystallizes the value of undergraduate research programs. All too often these activities are loosely connected to the overall academic program and are implemented as boutique opportunities. The CAS undergraduate research program standards are designed to integrate undergraduate research across the institution and implement a vision of undergraduate education that offers students the opportunity to emphasize their identities as learners and scholars.

Although the origins of the undergraduate research concept are not clear, it is likely that credit for this phenomenon of American higher education resides in the undergraduate liberal arts college. In 1958 the U.S. was awakened to deficiencies in science education by the launching of Sputnik by the USSR. In the early 1960s the National Science Foundation created its Undergraduate Research Program to encourage faculty-student science research. Credit needs to be given to two organizations that have been instrumental in promoting undergraduate research.

The Council on Undergraduate Research (CUR), founded in 1978, is a national organization of individual and institutional members representing over 900 colleges and universities. CUR and its affiliated colleges, universities, and individuals share a focus on providing undergraduate research opportunities for faculty and students at predominantly undergraduate institutions. CUR believes that faculty members enhance their teaching and contribution to society by remaining active in research and by involving undergraduates in research. CUR's leadership works with agencies and foundations to enhance research opportunities for faculty and students. CUR provides support for faculty development (www.cur.org).

The National Conferences on Undergraduate Research (NCUR), established in 1987, is dedicated to promoting undergraduate research, scholarship, and creative activity in all fields of study by sponsoring an annual conference for students. Unlike meetings of academic professional organizations, this gathering of young scholars welcomes presenters from all institutions of higher learning and from all corners of the academic curriculum. Through this annual conference, NCUR creates a unique environment for the celebration and promotion of undergraduate student achievement, provides models of exemplary research and scholarship, and helps to improve the state of undergraduate education (www.ncur.org).

The National Collegiate Honors Council (NCHC) has contributed to the undergraduate research movement through its influence on honors programs and colleges. Although there is not a standard requirement for research projects and theses, most programs offer that track for interested students.

There is a rich tradition of highly developed college and university undergraduate research programs, awards and grants, symposia, workshops, research presentations, poster sessions, and journals (print and on-line). Student organizations, particularly honor societies, also offer regional and national conferences that feature oral reports, poster sessions, and awards. Mercyhurst College maintains a directory of undergraduate journals and conferences (www.upd.mercyhurst.edu). About 30 institutions have formed the Undergraduate Research Community for the Human Sciences (URC) that seeks to develop a dynamic and pervasive culture of the human sciences for developing the next generation of scholars (www.kon.org/urc/undergraduate_research.html). All of these initiatives advance undergraduate learning and development.

The undergraduate research standards and guidelines provide a basis for institutional self-assessment and program development. In addition, because a comprehensive assessment of student outcomes has not had a high priority in undergraduate research, the student learning and development outcomes can be instrumental in raising the bar for assessment.

Reference

AAC&U. (2007). The student as scholar: Undergraduate research and creative practice. www.aacu.org.

Contributor:

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UNDERGRADUATE RESEARCH PROGRAMS

CAS STANDARDS and GUIDELINES

Part 1. MISSION

The primary mission of Undergraduate Research Programs (URP) is to engage students in investigative and creative activity to experience firsthand the processes of scholarly exploration and discovery. Undergraduate research is an inquiry or investigation conducted by an undergraduate student to examine, create, and share new knowledge in the context of disciplinary and interdisciplinary traditions.

URP must develop, disseminate, implement, and regularly review their mission. Mission statements must be consistent with the mission of the institution and with professional standards. URP in higher education must enhance overall educational experiences by incorporating student learning and development outcomes in their mission.

Part 2. PROGRAM

The formal education of students, consisting of the curriculum and the co-curriculum, must promote student learning and development outcomes that are purposeful and holistic and that prepare students for satisfying and productive lifestyles, work, and civic participation. The student learning and development outcome domains and their related dimensions are:

- **knowledge acquisition, integration, construction, and application**
 - **Dimensions:** understanding knowledge from a range of disciplines; connecting knowledge to other knowledge, ideas, and experiences; constructing knowledge; and relating knowledge to daily life
- **cognitive complexity**
 - **Dimensions:** critical thinking; reflective thinking; effective reasoning; and creativity
- **intrapersonal development**
 - **Dimensions:** realistic self-appraisal, self-understanding, and self-respect; identity development; commitment to ethics and integrity; and spiritual awareness
- **interpersonal competence**
 - **Dimensions:** meaningful relationships; interdependence; collaboration; and effective leadership
- **humanitarianism and civic engagement**
 - **Dimensions:** understanding and appreciation of cultural and human differences; social responsibility; global perspective; and sense of civic responsibility
- **practical competence**
 - **Dimensions:** pursuing goals; communicating effectively; technical competence; managing personal affairs; managing career development; demonstrating professionalism; maintaining health and wellness; and living a purposeful and satisfying life

[See *The Council for the Advancement of Standards Learning and Developmental Outcomes* statement for examples of outcomes related to these domains and dimensions.]

Consistent with the institutional mission, Undergraduate Research Programs (URP) must identify relevant and desirable student learning and development outcomes from among the six domains and related dimensions. When creating opportunities for student learning and development, URP must explore possibilities for collaboration with faculty members and other colleagues.

URP must assess relevant and desirable student learning and development outcomes and provide evidence of their impact on student learning and development. URP must articulate how they contribute to or support students' learning and development in the domains not specifically assessed.

URP must be:

- **integrated into the life of the institution**
- **intentional and coherent**
- **guided by theories and knowledge of learning and development**
- **reflective of developmental and demographic profiles of the student population**
- **responsive to needs of individuals, diverse and special populations, and relevant constituencies**

URP must:

- **create an active learning environment supportive of scholarship and research**
- **integrate research activities with professional and liberal education**
- **create an infrastructure to recognize and reward research excellence and successful completion of research**
- **create a collegial climate in which to conduct research**
- **allow students to define their interests within the context of the research activity**
- **promote intellectual rigor and student intellectual growth and development**
- **require an appropriate report of the student's completed work**
- **provide opportunities for research dissemination**

URP must encourage research that is commensurate with practice in the disciplines and enables students to recognize work that is original, current, and significant.

URP must establish mechanisms for individual or small-group mentoring on a regular basis that is based on the intellectual readiness of students. Mentoring must address research design; appropriate forms of data collection, verification, and analysis; information retrieval; oversight of research on human subjects; and appropriate forms of written and oral scholarly communication.

URP must ensure that students are made aware that disciplines and publications have specific authorship policies and ethical standards and are provided resources to identify those relevant to their research.

URP should provide opportunities for undergraduate students to present their research to peers, faculty members, professionals, and appropriate others and to participate in undergraduate and disciplinary research conferences. These may include institutional, local, regional, national, and international meetings.

URP should offer opportunities for academic credit for research activity where applicable.

URP should offer a range of research experiences appropriate for students at various developmental levels, abilities, and with various life circumstances.

Because a particular research activity may not be appropriate for every student, a range of options should be provided so that all students may find appropriate opportunities. Examples of such opportunities may include first-year experiences, living-learning programs, honors programs, graduation requirements, general education courses, major requirements, capstone courses, and community-based research. These illustrative examples are not mutually exclusive. An undergraduate research activity may involve two or more of these. Activities may be initiated by students, faculty members, programs, or institutions.

Part 3. LEADERSHIP

Because effective and ethical leadership is essential to the success of all organizations, Undergraduate Research Programs (URP) leaders with organizational authority for the programs and services must:

- **articulate a vision and mission for their programs and services**
- **set goals and objectives based on the needs of the population served and desired student learning and development outcomes**
- **advocate for their programs and services**
- **promote campus environments that provide meaningful opportunities for student learning, development, and integration**
- **identify and find means to address individual, organizational, or environmental conditions that foster or inhibit mission achievement**
- **advocate for representation in strategic planning initiatives at appropriate divisional and institutional levels**
- **initiate collaborative interactions with stakeholders who have legitimate concerns and interests in the functional area**
- **apply effective practices to educational and administrative processes**
- **prescribe and model ethical behavior**
- **communicate effectively**
- **manage financial resources, including planning, allocation, monitoring, and analysis**
- **incorporate sustainability practices in the management and design of programs, services, and facilities**
- **manage human resource processes including recruitment, selection, development, supervision, performance planning, and evaluation**
- **empower professional, support, and student staff to accept leadership opportunities**
- **encourage and support scholarly contribution to the profession**
- **be informed about and integrate appropriate technologies into programs and services**
- **be knowledgeable about federal, state/provincial, and local laws relevant to the programs and services and ensure that staff members understand their responsibilities by receiving appropriate training**
- **develop and continuously improve programs and services in response to the changing needs of students and other populations served and the evolving institutional priorities**
- **recognize environmental conditions that may negatively influence the safety of staff and students and propose interventions that mitigate such conditions.**

URP leaders must promote a research environment that recognizes and respects all aspects of diversity. This includes research topics and the recruitment, access, and full participation of diverse students in research activity.

Part 4. HUMAN RESOURCES

Undergraduate Research Programs (URP) must be staffed adequately by individuals qualified to accomplish the mission and goals. Within institutional guidelines, URP must establish procedures for staff selection, training, and evaluation; set expectations for supervision; and provide appropriate professional development opportunities to improve the leadership ability, competence, and skills of all employees.

URP should offer training for individuals who mentor undergraduate researchers about research policies and procedures, URP goals and opportunities, and the diversity of student learning styles.

URP professional staff members must hold an earned graduate or professional degree in a field relevant to the position they hold or must possess an appropriate combination of educational credentials and related work experience.

The professional development of staff and faculty members engaged in URP should address:

- identification of the compatibility between research activities and student interests
- establishment and maintenance of relationships with academic and other units on campus
- development, implementation, and assessment of learning goals
- preparation, mentoring, and monitoring of students involved in research experiences
- use of active learning strategies
- education and support of students to apply learning from research experiences to future endeavors

Degree- or credential-seeking interns must be qualified by enrollment in an appropriate field of study and by relevant experience. These individuals must be trained and supervised adequately by professional staff members holding educational credentials and related work experience appropriate for supervision.

Student employees and volunteers must be carefully selected, trained, supervised, and evaluated. They must be educated on how and when to refer those in need of additional assistance to qualified staff members and must have access to a supervisor for assistance in making these judgments. Student employees and volunteers must be provided clear and precise job descriptions, pre-service training based on assessed needs, and continuing staff development.

Employees and volunteers must receive specific training on institutional policies and privacy laws regarding their access to student records and other sensitive institutional information (e.g., in the USA, Family Educational Rights and Privacy Act, FERPA, or equivalent privacy laws in other states/provinces or countries).

URP must have technical and support staff members adequate to accomplish their mission. All members of the staff must be technologically proficient and qualified to perform their job functions, be knowledgeable about ethical and legal uses of technology, and have access to training and resources to support the performance of their assigned responsibilities.

All members of the staff must receive training on policies and procedures related to the use of technology to store or access student records and institutional data.

URP must ensure that staff members are knowledgeable about and trained in emergency procedures, crisis response, and prevention efforts. Prevention efforts must address identification of threatening conduct or behavior of students, faculty members, staff, and others and must incorporate a system or procedures for responding, including but not limited to reporting them to the appropriate campus officials.

Salary levels and benefits for all staff members must be commensurate with those for comparable positions within the institution, in similar institutions, and in the relevant geographic area.

URP must maintain position descriptions for all staff members.

To create a diverse staff, URP must institute hiring and promotion practices that are fair, inclusive, proactive, and non-discriminatory.

URP must conduct regular performance planning and evaluation of staff members. URP must provide access to continuing and advanced education and professional development opportunities.

Part 5. ETHICS

Persons involved in the delivery of Undergraduate Research Programs (URP) must adhere to the highest principles of ethical behavior. URP must review relevant professional ethical standards and develop or adopt and implement appropriate statements of ethical practice. URP must publish these statements and ensure their periodic review by relevant constituencies.

URP must orient new staff members to relevant ethical standards and statements of ethical practice.

URP staff members must ensure that privacy and confidentiality are maintained with respect to all communications and records to the extent that such records are protected under the law and appropriate statements of ethical practice. Information contained in students' education records must not be disclosed except as allowed by relevant laws and institutional policies. URP staff members must disclose to appropriate authorities information judged to be of an emergency nature, especially when the safety of the individual or others is involved, or when otherwise required by institutional policy or relevant law.

URP staff members must be aware of and comply with the provisions contained in the institution's policies pertaining to human subjects research and student rights and responsibilities, as well as those in other relevant institutional policies addressing ethical practices and confidentiality of research data concerning individuals.

These policies and procedures must guard against potential physical and psychological harm to human subjects of research.

URP staff members must recognize and avoid personal conflicts of interest or appearance thereof in the performance of their work.

URP staff members must strive to insure the fair, objective, and impartial treatment of all persons with whom they interact.

When handling institutional funds, URP staff members must ensure that such funds are managed in accordance with established and responsible accounting procedures and the fiscal policies or processes of the institution.

Promotional and descriptive information must be accurate and free of deception.

URP staff members must perform their duties within the limits of their training, expertise, and competence. When these limits are exceeded, individuals in need of further assistance must be referred to persons possessing appropriate qualifications.

URP staff members must use suitable means to confront and otherwise hold accountable other staff members who exhibit unethical behavior.

URP staff members must be knowledgeable about and practice ethical behavior in the use of technology.

URP staff members must acknowledge authorship based on disciplinary guidelines and practices.

Part 6. LEGAL RESPONSIBILITIES

Undergraduate Research Programs (URP) staff members must be knowledgeable about and responsive to laws and regulations that relate to their respective responsibilities and that may pose legal obligations, limitations, or ramifications for the institution as a whole. As appropriate, staff members must inform users of programs and services, as well as officials, of legal obligations and limitations including constitutional, statutory, regulatory, and case law; mandatory laws and orders emanating from federal, state/provincial, and local governments; and the institution's policies.

URP must have written policies on all relevant operations, transactions, or tasks that may have legal implications.

URP staff members must neither participate in nor condone any form of harassment or activity that demeans persons or creates an intimidating, hostile, or offensive campus environment.

URP staff members must use reasonable and informed practices to limit the liability exposure of the institution and its officers, employees, and agents. URP staff members must be informed about institutional policies regarding risk management, personal liability, and related insurance coverage options and must be referred to external sources if coverage is not provided by the institution.

The institution must provide access to legal advice for URP staff members as needed to carry out assigned responsibilities.

The institution must inform URP staff and students in a timely and systematic fashion about extraordinary or changing legal obligations and potential liabilities.

Part 7. EQUITY and ACCESS

Undergraduate Research Programs (URP) must be provided on a fair, equitable, and non-discriminatory basis in accordance with institutional policies and with all applicable state/provincial and federal statutes and regulations. URP must maintain an educational and work environment free from discrimination in accordance with law and institutional policy.

Discrimination must be avoided on the basis of age; cultural heritage; disability; ethnicity; gender identity and expression; nationality; political affiliation; race; religious affiliation; sex; sexual orientation; economic, marital, social, or veteran status; and any other bases included in local, state/provincial, or federal laws.

Consistent with the mission and goals, URP must take action to remedy significant imbalances in student participation and staffing patterns.

URP must ensure physical and program access for persons with disabilities. URP must be responsive to the needs of all students and other populations served when establishing hours of operation and developing methods of delivering programs and services.

URP must recognize the needs of distance learning students by providing appropriate and accessible services and assisting them in identifying and gaining access to other appropriate services in their geographic region.

Part 8. DIVERSITY

Within the context of each institution's unique mission, diversity enriches the community and enhances the collegiate experience for all; therefore, Undergraduate Research Programs (URP) must create and nurture environments that are welcoming to and bring together persons of diverse backgrounds.

URP must promote environments that are characterized by open and continuous communication that deepens understanding of one's own identity, culture, and heritage, as well as that of others. URP must recognize, honor, educate, and promote respect about commonalities and differences among people within their historical and cultural contexts.

URP must address the characteristics and needs of a diverse population when establishing and implementing policies and procedures.

Part 9. ORGANIZATION and MANAGEMENT

To promote student learning and development outcomes, Undergraduate Research Programs (URP) must be structured purposefully and managed effectively to achieve stated goals. Evidence of appropriate structure must include current and accessible policies and procedures, written performance expectations for all employees, functional

workflow graphics or organizational charts, and clearly stated program and service delivery expectations.

URP must monitor websites used for distributing information to ensure that the sites are current, accurate, appropriately referenced, and accessible.

Evidence of effective management must include use of comprehensive and accurate information for decisions, clear sources and channels of authority, effective communication practices, procedures for decision-making and conflict resolution, responses to changing conditions, systems of accountability and evaluation, and processes for recognition and reward. URP must align policies and procedures with those of the institution and provide channels within the organization for their regular review.

Part 10. CAMPUS and EXTERNAL RELATIONS

Undergraduate Research Programs (URP) must reach out to relevant individuals, campus offices, and external agencies to:

- **establish, maintain, and promote effective relations**
- **disseminate information about their own and other related programs and services**
- **coordinate and collaborate, where appropriate, in offering programs and services to meet the needs of students and promote their achievement of student learning and development outcomes**

URP must have procedures and guidelines consistent with institutional policy for responding to threats, emergencies, and crisis situations. Systems and procedures must be in place to disseminate timely and accurate information to students and other members of the campus community during emergency situations.

URP must have procedures and guidelines consistent with institutional policy for communicating with the media.

Part 11. FINANCIAL RESOURCES

Undergraduate Research Programs (URP) must have adequate funding to accomplish their mission and goals. In establishing funding priorities and making significant changes, a comprehensive analysis, which includes relevant expenditures, external and internal resources, and impact on the campus community, must be conducted.

URP should seek funding to increase undergraduate research activities that involve a wide range of students and disciplines.

URP must demonstrate fiscal responsibility and cost effectiveness consistent with institutional protocols.

Part 12. TECHNOLOGY

Undergraduate Research Programs (URP) must have adequate technology to support their mission. The technology and its use must comply with institutional policies and procedures and be evaluated for compliance with relevant federal, state/provincial, and local requirements.

URP must maintain policies and procedures that address the security and back up of data.

When technology is used to facilitate student learning and development, URP must select technology that reflects current best pedagogical practices.

Technology, as well as any workstations or computer labs maintained by the URP for student use, must be accessible and must meet established technology standards for delivery to persons with disabilities.

When URP provide student access to technology, they must provide:

- **access to policies that are clear, easy to understand, and available to all students**
- **access to instruction or training on how to use the technology**
- **access to information on the legal and ethical implications of misuse as it pertains to intellectual property, harassment, privacy, and social networks.**

Student violations of technology policies must follow established institutional student disciplinary procedures.

Students who experience negative emotional or psychological consequences from the use of technology must be referred to support services provided by the institution.

Part 13. FACILITIES and EQUIPMENT

Undergraduate Research Programs (URP) must have adequate, accessible, suitably located facilities and equipment to support their mission and goals. If acquiring capital equipment as defined by the institution, URP must take into account expenses related to regular maintenance and life cycle costs. Facilities and equipment must be evaluated regularly, including consideration of sustainability, and be in compliance with relevant federal, state/provincial, and local requirements to provide for access, health, safety, and security.

URP staff members must have work space that is well-equipped, adequate in size, and designed to support their work and responsibilities. For conversations requiring privacy, staff members must have access to a private space.

URP staff members who share work space must have the ability to secure their work adequately.

The design of the facilities must guarantee the security of records and ensure the confidentiality of sensitive information.

The location and layout of the facilities must be sensitive to the special needs of persons with disabilities as well as the needs of constituencies served.

URP must ensure that staff members are knowledgeable of and trained in safety and emergency procedures for securing and vacating the facilities.

Part 14. ASSESSMENT and EVALUATION

Undergraduate Research Programs (URP) must establish systematic plans and processes to meet internal and external accountability expectations with regard to program as well as student learning and development outcomes. URP must conduct regular assessment and evaluations. Assessments must include qualitative and quantitative methodologies as appropriate, to determine whether and to what degree the stated mission, goals, and student learning and development outcomes are being met. The process must employ sufficient and sound measures to ensure comprehensiveness. Data collected must include responses from students and other affected constituencies.

URP must evaluate regularly how well they complement and enhance the institution's stated mission and educational effectiveness.

Results of these evaluations must be used in revising and improving programs and services, identifying needs and interests in shaping directions of program and service design, and recognizing staff performance.

*General Standards revised in 2008;
URP content developed in 2007*