

THE ACEJMC DIGITAL CERTIFICATION

The ACEMC Digital Certification offers ACEJMC's accredited units the ability to build upon a solid foundation of journalism and mass communications. This voluntary certification program offers an additional set of standards that reflect the rapid pace of technological change within media and communications. The certification, which can be renewed every two years, highlights the essential components that will prepare students for successful industry careers.

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Purpose

Inspired by LEED Certification in intent and execution—LEED provides a framework to evaluate performance and encourage market transformation towards sustainability—the ACEJMC’s Digital Certification is designed to encourage future-forward research, teaching and faculty development within the communications fields. This voluntary, secondary certification recognizes those ACEJMC-accredited units that are responding to emerging technologies, platforms and distribution models. To earn this certification, accredited units must meet or exceed designated criteria for integrating technology across the curriculum, availability and utilization of technology, faculty development, research and application and external collaborations.

Eligibility, Standards, Evaluation

Any ACEJMC-accredited unit with no non-compliances at its last accreditation is eligible for this additional digital certification. In fact, a unit may offer a particular department or program within the accredited unit for digital certification. To earn this certification, units must meet the following eligibility criteria and file a report on the designated set of standards. The reporting will be evaluated by an ACEJMC committee.

SECTION ONE: ELIGIBILITY CRITERIA

To be eligible for digital certification, the unit under consideration must be an ACEJMC-accredited unit in good standing (or a portion of one) with no non-compliances at its last accreditation and meet the criteria listed below:

Criterion A - Required Skills

Units under consideration must teach students the skills necessary to navigate the rapid pace of technological change and disruption in media and communications, which go beyond the foundation of reporting, writing, editing and basic use of technology. The skills required in this voluntary certification fall under the categories of: Historical Context; Programming; Technology; Audience Engagement; Legal and Ethical Issues;

Design; and Research. (Examples of learning outcomes are listed in the *Addendum*. These learning outcomes will be updated annually by ACEJMC and are designed as a consultative guide for applicants).

Criterion B - Faculty Development

The unit must demonstrate a commitment to ensuring faculty have exposure to and training on emerging technologies, and the flexibility in their schedules to learn about new techniques, tools and methods. Faculty in the unit under review should demonstrate commitment to continuous learning throughout the year that is demonstrated in meaningful and relevant assignments, courses and curriculum. The unit encourages and rewards faculty for participating in development activities that support the current and future state of communications, technology and digital media.

Criterion C - Commitment to Research that Can Impact Practice

The unit must encourage and support faculty and students in pursuit of research that is informed by and informs practice in the application of digital media in communication. ACEJMC embraces the notion that, as in other academic fields, scholars in journalism and mass communication have a responsibility to advance associated professions.

The unit must demonstrate consistent examples of research projects and published research in emerging media areas, and its tenure standards should support such work. Examples of this sort of research can be found in the *Addendum*.

Criterion D - Use of Technology

Digital certification requires evidence that technology is used extensively in curricula and experiential learning opportunities and is widely available to students and faculty. There are three specific areas where technology should be evident in a certified unit:

- 1. Availability of Technology to Students and Faculty:** The unit should demonstrate that it is providing, either on its own or via on-campus or external partnerships, or requiring students to provide, the necessary tools, machines,

software, data sets and other equipment needed to provide a high-quality educational experience in the recommended course offerings, elective course offerings, applied research projects and associated academic activities.

2. Technology Use by Students and Faculty: The unit must demonstrate the active use of emerging technologies throughout its course offerings, experiential learning opportunities, student media and related events.

3. Integration of Technology Across the Curriculum: The unit should demonstrate that the technical knowledge is being taught through coursework, including capstone projects, extern/internships, and/or student newsroom/media projects.

Criterion E - External Collaborations

In order to stay ahead of changes, and to transfer knowledge between industry and academia, units should demonstrate active engagement in external collaborations with those working specifically with digital media and technology.

SECTION TWO: STANDARDS AND EVALUATION AND BASIS FOR JUDGMENT

Executive Summary Statement on Digital Certification Standards for 2018 - 2020

A critical mass of emerging technologies is converging, providing advanced uses beyond initial testing and applied research. Standards for 2018 - 2020 were developed with mixed reality, artificial intelligence, algorithmic transparency, the algorithmic spread of misinformation, and emerging distribution tools in mind.

Note: This statement will be amended each year with a focus on current and emerging technologies. ACEJMC will appoint a professional working group to aid in this process each year.

Schools will complete a checklist of detailed Key Performance Indicators (KPIs) on student, faculty and professional staff engagement with technology and digital media. They will include supplementary materials and evidence as required.

Criterion A: Required Skills and Course Offerings

Criterion B: Faculty Development

Criterion C: Examples of Applied Research That Impact Practice

Criterion D: Use of Technology

Criterion E: External Collaborations

Calculating Points

Units eligible for Digital Certification are awarded points for each of the KPIs listed in Section Three. The points system is intentionally different from the ACEJMC's accreditation paradigm.

Points are generated and calculated within two academic calendar cycles. Units must meet a minimum number of KPI points in each criterion, and no more than the maximum number of points will be awarded per criterion. The KPI point distribution is to ensure flexibility across a wide spectrum of units, while incentivizing all units to address new goals every year.

Units must earn a minimum of 100 points across all five criterion to be considered for Digital Certification eligibility. For 2018-2020, a maximum of 150 points are available.

Criterion A: Required Skills

Minimum of 20; Maximum of 32

1. Course Offerings

No points are awarded as this is a mandatory standard.

Required Topics

The following topics—offered as stand-alone courses by the department, through another department, or via a collaboration, or as substantive topics within other courses—must be included as major requirements for all communications majors. The program under review demonstrates concrete presence of a minimum of four of these topics in the required curriculum. Evidence of this integration must be provided.

1. The history of technology, media and Silicon Valley, with demonstrated *up-to-date* case studies.
2. The First Amendment and mass communications law, within the context of artificial intelligence, generative algorithms for content, complex databases and social media with demonstrated *up-to-date* case studies
3. Audience engagement: measurement, attention, A/B testing, use of data, search, and social optimization
4. Human-centered design: principles of design elements across all mediums
5. Deep research: methods for data mining, evaluating sources, and investigating algorithms
6. Programming in one or more modern languages
7. Third-era computing: the past, present and future of artificial intelligence

Elective Course Offerings

Courses that focus on data science, programming, business fundamentals, third computing era fundamentals, information hardware fundamentals and design—offered by the department, through another department, or via a collaboration—should be included as approved elective courses for all communications majors. Units must

demonstrate significant presence of these topics within courses that reflect integration within a communications major. For a recommended list of elective course offerings, see the *Addendum*.

2. Introduction of new courses that demonstrate evidence of successfully teaching emerging technology and communications skills. Courses can be prototypes or experimental. 2 points each, for a maximum of 14 points.

Example A

The unit provides as evidence: 1 new course in Data Journalism (2 points) + 1 new course in Virtual Reality (2 points) + 1 new course in Audience Engagement (2 points) = 6 points (up to 10 points maximum)

Example B

The unit provides as evidence: Syllabi for new course in Data Journalism (2 points) + Student Achievement Statistics (2 points) + Advisory Board Feedback (2 points) + Other Supporting Evidence (2 points) = 8 points (up to 10 points maximum)

Example C

Faculty member from the unit develops a Data Journalism course that has never been taught before in the program. The unit would receive 2 points for creating this course. If the unit develops another new course by the same or another faculty member during the review period (i.e. a new course in Virtual Reality), it would receive another 2 points.

Evidence for review:

- course names, descriptions and syllabi
- enrollment statistics
- student achievement statistics (grades, resulting research/ projects/ publication)
- student feedback
- faculty feedback (structure for giving feedback; accountability systems)
- the unit's advisory board feedback and recommendations

- other supporting evidence

3. Revision of existing syllabi and teaching materials to demonstrate the unit's commitment to teaching the most up-to-date case studies, exemplars and tools available. 2 points each, for a maximum of 8 points.

Example D

For each course that includes a revision to reflect a digital or emerging topic, the unit receives 2 points, up to a maximum of 8 (for four revised courses).

Evidence for review:

- course names and descriptions
- comparative syllabi (old and revised)
- comparative teaching materials (old and revised)

4. Development of new concentrations or majors that demonstrate evidence of successfully teaching emerging technology and communications skills.

Concentrations or majors can be prototypes or experimental. 6 points total.

Example E

The unit creates and receives approval for a new undergraduate degree in Digital Media Innovation. The school receives 6 points for this activity. Additional new degrees developed and approved during the review period would not be counted. These are considered to be more rare activities than developing new courses or revising existing courses. However, new and revised courses associated with the degree would be eligible for points in related sections.

Evidence for review:

- concentration or major names, descriptions and criteria
- enrollment statistics
- student achievement statistics (grades, resulting research/ projects/ publication)

- the unit's advisory board feedback and recommendations

5. Revision of existing concentrations or majors to demonstrate the unit's commitment to teaching the most up-to-date case studies, exemplars and tools available. 4 points total.

Example F

The unit undertakes and receives approval for a curriculum revision to its existing communications degree to include required digital courses. The unit receives 4 points for this activity. If the school has multiple revised degrees during the review period, it receives a maximum of 4 points for this activity. However, new and revised courses associated with the revised degree would be eligible for points in related sections.

Evidence for review:

- concentration or major titles and descriptions
- comparative requirements (old and revised)
- other relevant supporting information: updates to faculty, advisors, partners

Criterion B: Faculty Development

Minimum of 25; Maximum of 40

6. Attend conferences, meetups, networking events with learning opportunities on emerging technologies and communications techniques. (See *Appendix* for recommended conferences.) 1 point for attendance, for a maximum of 6 points.

Evidence for review:

- proof of registration
- demonstration of knowledge-sharing post conference (how faculty returned and shared what they learned with the rest of the unit or department)

7. Presentations, workshops or lectures at conferences or events on emerging technologies and communications techniques. (See *Appendix* for recommended conferences.) 2 points each, for a maximum of 8 points.

Evidence for review:

- proof of speaking (presentation title, date, location, description of event)
- demonstration of presentation, workshop or lecture materials)
- demonstration of knowledge-sharing after the event (did faculty make their presentation materials available to their own unit's faculty?)

8. Receive formal training on emerging technologies, digital techniques or data infrastructure. 2 points each, for a maximum of 8 points

Evidence for review:

- proof of registration
- demonstration of faculty learning outcomes if applicable (certifications, coursework, summary reports)
- demonstration of knowledge-sharing after the formal training (how faculty shared what they learned with the rest of the unit or department)

9. The unit provides training to faculty and students on emerging technology, data and new ideas in communication. 2 points each, for a maximum of 8 points

Evidence for review:

- description of training and expected learning outcomes
- enrollment statistics
- student achievement statistics (grades, resulting research/ projects/ publication)
- student feedback
- faculty feedback

10. Meet criteria for certifications in digital media and technology offered by third-party organizations such as government agencies and commercial providers. 3 points each, for a maximum of 9 points

Evidence for review:

- proof of certification

Criterion C: Commitment to Applied and Basic Research That Can Impact Practice

Minimum of 20; Maximum of 34

11. The unit has demonstrated its commitment to applied and basic research that can meaningfully impact the practice of communications. 2 points each, for a maximum of 14 points.

Evidence for review:

- list of research published by faculty (within the digital certification evaluation period only) in peer-reviewed, academic journals
- list of research published by students within five years of the digital certification evaluation period only in peer-reviewed, academic journals
- description of current, pre-publication research by faculty and students
- other research activities and collaborations, including symposia

12. Publication of research, methods, opinion, digital tools or techniques, apps or databases in non-traditional journals; in industry-specific websites; on behalf of think tanks and institutions; on behalf of public-private partnerships. 2 points each, for a maximum of 14 points.

Evidence for review:

- proof of publication, with descriptions or abstracts
- demonstration of impact (how is the publication affecting the intended audience)

13. Research projects with other tech/ science/ quantitative units within the university or at other universities. 1 point each, for a maximum of 6 points.

Evidence for review:

- proof of publication, with descriptions or abstracts
- demonstration of impact (how is the publication affecting the intended audience)

Criterion D: Use of Technology

Minimum of 5; Maximum of 10

Digital Certification encourages strong relationships between units and campus libraries, other departments, or other areas on campus where university-level technology purchases are made available to students within the unit.

14. Availability of technology to students and faculty. 5 points total

- do students have access to technology within their units or within the broader university?
- do students and faculty have access to technology throughout the day and evening, in nearby locations?
- does the unit have adequate funding for technology?
- has the unit developed external partnerships to leverage technology?

15. Technology use by students and faculty: 5 points total

- demonstrated integration of current technology that mirrors what's used in professional communications, PR and newsrooms across the curriculum.
Examples: slack, banjo, Salesforce, Top Hat, PollEverywhere

Criterion E: External Collaborations

Minimum of 30; Maximum of 42

16. Cross-campus collaborations. 2 points each, for a maximum of 8 points.

Evidence for review:

- cross-campus collaborations to help develop innovative courses
- cross-campus collaborations to create and deliver innovative courses for other departments

17. Hosting guest lecturers and speakers (in-person or remote). Topics should be relevant to the progression of the communications field, which may range from historical perspective to emerging trends and professional practice. 1 point each, for a maximum of 6 points.

Evidence for review:

- description of lecturer/ speaker
- event details (date, number of attendees)

18. Establishing hands-on, on-campus fellowships or virtual residencies for technologists, data scientists, business strategists or digital communications researchers. 2 points each, for a maximum of 8 points.

Evidence for review:

- description of fellowship or virtual residency
- demonstration of local impact—define how the collaboration is making a positive impact on the academic unit and the student community

19. Collaborating with professionals working within digital media, digital communications, technology, data, digital strategy and journalism on research,

projects, coursework, fellows, residencies and internships. 2 points each, for a maximum of 8 points.

Evidence for review:

- description of collaboration
- demonstration of local impact. Define how the collaboration is making a positive impact on the academic unit and the student community

20. Faculty and student visits to technology companies, accelerators, startups, research labs. Student interviews and recruitment visits are ineligible. 1 point each, for a maximum of 6 points.

Evidence for review:

- Description of visit and expected learning outcomes
- Demonstration of knowledge-sharing with others in the unit after the visit

21. Other external collaborations not defined. Points will be awarded on a case-by-case basis for a maximum of 4 points.

ADDENDUM

The following sections provide additional examples and recommendations.

Section One: Eligibility Criteria

Criterion A: Required Skills

1. Elective Course Offerings

Elective course offerings for the 2018-2020 period should include access to courses that incorporate at least 70% of the following subjects:

Audience Engagement

- Measurement techniques and methods
- Search engine optimization
- A/B testing
- IoT analytics
- Social optimization

Third Computing Era Fundamentals

- General or introduction to Artificial Intelligence
- Courses in Machine Learning
- Courses in Natural Language Processing

Data Science Fundamentals

- Data skills courses
- Courses in GIS
- Courses in data structures and algorithms
- Data analysis and interpretation
- R Programming
- Writing in Python
- Regression Modeling

- Data Management
- Data Visualization
- Text Mining

Programming Fundamentals

- General or introduction to computer science
- Coding skills courses in modern languages
- Full Stack Web Development
- Front-end Web Development
- JavaScript and DOM Manipulation

Business Fundamentals

- Courses in strategic foresight
- Courses in scenario writing
- Courses in business analytics
- Advanced social media and analytics

Information Hardware Fundamentals

- Sensor-based newsgathering
- Virtual Reality
- Augmented Reality
- Bots
- Mobile development
- Drone-based newsgathering

Legal and Ethical Issues

- Cyberlaw: deep dives into the past, present and future
- Open and equal access to information in the modern digital era
- Emerging legal topics in information and digital communications

Communications Design

- User experience design
- User interface design
- Emerging interfaces design
- Human-centered design techniques
- Data visualization
- Data presentation

Research Methodologies

- Inferential statistics
- Linear regression and modeling
- Qualitative research methods

Evidence: KPIs for Students

- Percentage of students taking required and elective courses for Digital Certification majors
- Measurable outcomes for students taking required and elective courses for Digital Certification
- Demonstrated use of technical/ digital skills in student coursework. Example: digital portfolio

Criterion B: Faculty Development

The following is a recommended list of faculty development opportunities. While the list is not exhaustive, it is illustrative of the caliber of development opportunities sought by digital certification:

- Attend conferences with learning opportunities on emerging technologies and communication techniques. Examples include: South by Southwest, NICAR, ISOJ, ONA, GEN and INMA.

- Attend conferences with learning opportunities in adjacent technological spaces. Examples include the Annual Conference on Neural Information Processing Systems (NIPS), the European Symposium on Algorithms (ESA), conferences and symposia from the AAAS and IEEE.
- Formal training and certifications offered by: Coursera, Lynda.com, Codecademy, at conferences (ONA, NICAR), or within the university.
- Meet criteria for certifications in digital media and technology. For example, certifications are offered by Google, Hubspot, Hootsuite, Facebook, the FAA (drone certification).

Evidence: KPIs for Faculty

- Number of applied research projects in progress
- Number of applied research projects published
- Competitive research awards and externally-funded grants and contracts.
- Cases published
- Instances of applied research projects earning patents/copyrights
- New research partnerships funded by industry organizations
- New products, tools, or companies developed or launched within the school
- Percentage of faculty participating in the above intellectual contributions year over year
- Syllabi are current and incorporate up-to-date case studies, materials and other relevant content.
- Percentage of faculty integrating modern communications tools into their classroom experience – social media and certification workshops, CrowdTangle, Banjo, Videolicious access, use of drones, 360 video, sensors and coding in new and existing courses.

Evidence: KPIs for Professional (non-tenure or tenure staff) Staff and Adjuncts

- Instances of Professional Staff providing resources/ mentoring to Faculty
- Instances of Professional Staff taking part in training and professional development in new technology/practices that support the standards
- Instances of Professional Staff participating in or leading projects in alignment with the standards
- Professional Staff are in alignment with the school on ethical understanding and reasoning in regard to digital media and technology

Criterion C: Examples of Research That Can Impact Practice

The following are examples of the kind of academic research encouraged by the Digital Certification program.

Rosenblat, A. and S. Barcoas, K. Levy, T. Hwang. "Discriminating Tastes: Customer Ratings as Vehicles for Bias," Policy & Internet 2016. Presented at the Oxford Internet Institute.

Merchant, M. "Conflict Analysis Toolbox," Tow Center for Digital Journalism. This project developed a way to simplify satellite data collection and interpretation, allowing journalists, urbanists, humanitarian agencies and others to mine valuable information from satellite imagery during urban conflicts or natural disasters. See: <http://c4sr.columbia.edu/conflict-urbanism-aleppo/index.html>.

Hansen, E. and E. Goligoski. "Guide to Audience Revenue and Engagement," Columbia Journalism Review, February 2018. See: https://www.cjr.org/tow_center_reports/guide-to-audience-revenue-and-engagement.php

Criterion D: Use of Technology

ACEJMC understands that individual units may provide different software and hardware based on their own mission statements and other factors. The following is a 2018-2020 list of technologies that would provide evidence of technology used within the unit. This list is not intended to be exhaustive.

- Web design/development software
- Data visualization software
- Statistics software
- Mind-mapping software
- Mixed reality interfaces and headsets
- 360 video development tools
- Sensor-based journalism tools
- Drones
- Connected devices capable of showing information
- Digital media, emerging technology and data resources available to students and faculty within the unit

Criterion E: External Collaborations

The following list provides examples of external partnerships.

- Projects with local incubators, accelerators or technology labs
- Visits to tech startups and companies to learn more about their work
- Visits to maker spaces and labs, allowing students and faculty to gain hands-on experience
- Public-private advisory boards which include members working specifically within technology, data science, computer science and business foresight
- Inviting external researchers to bring projects on the future of journalism and communications to campus for feedback and further ideation
- Cross-campus collaborations to help develop innovative courses

- Cross-campus collaborations to create and deliver innovative courses for other departments

Section Two: Standards and Evaluation And Basis For Judgment

Demonstration of requirement Criterion B: Faculty Development:

Faculty create an annual development plan and identify events, activities and training that support the standard. Progress toward development plan should be measured.

Sample evidence:

For instance, a statement from faculty members attending NICAR about specific technologies and trainings they attended and how they plan to integrate the material into their curriculum.

Other examples could include:

- Faculty members gaining knowledge of new technologies, including advanced coding techniques, 360 video/virtual reality, augmented reality/mixed reality.
- Faculty participating in relevant digital development workshops, which can include school-based training workshops, such as social media training and certification.
- Speakers invited to campus to keep faculty and students up-to-date on current topics. Speakers could represent leading-edge media organizations, technology providers, media pioneers and entrepreneurial startups.
- Faculty participating in beta testing programs for relevant new software or application development.

Demonstration of requirement Criterion C: Examples of Research that Can Impact Practice:

Example description of applied research activities:

As part of an annual work plan or end-of-year file, faculty will identify research activities that support the standard. Faculty write abstracts, publication, citations and other documentation of relevant research activities with potential to impact practice, evidence of impact on practice or adoption by industry.

Samples of applied research topics could include:

- How can news organizations guarantee trust and transparency in a corpus used for bots or other machine learning projects?
- How might algorithms be used to create multivariate story versions that are automatically customized for each individual consumer and the devices she uses?
- How might artificial intelligence and machine learning be used to predict an individual consumer's immediate and near-future information needs, interests, and activities?
- Is there a transactional model that can replace the traditional subscription model for newspapers, magazines, and websites?
- What are new reporting techniques to investigate algorithms and data sets?
- How might news-as-a-platform be used as a personal information layer for individual consumers?
- Can a new organizational plan be developed to manage a large newsroom's staff as a distributed network, reducing operational costs without sacrificing editorial quality?
- How can consumers and their devices be harnessed to contribute data for individual and ongoing projects of varying scopes?
- In the long-term, will dependence on social networks such as Facebook and Twitter cannibalize a news organization's audience or erode its brand impact?

- What are the implications for advertising, public relations, strategic communication agencies & organizations and technology companies and media startups.

Demonstration of requirement Criterion D: Use of Technology

Evidence: KPIs for Faculty

- Number of applied research projects in progress
- Number of applied research projects published
- Competitive research awards, grants and contracts
- Cases published
- Instances of applied research projects earning patents/copyrights
- New research partnerships funded by industry organizations
- New products, tools, or companies developed or launched within the school

Evidence: KPIs for Professional (non-tenure or tenure staff) Staff and Adjuncts

- Instances of professional staff providing resources/ mentoring to faculty
- Unit-wide programs designed to mentor adjunct faculty
- Instances of professional staff taking part in training and professional development in new technology/practices that support the standards