

**GUIDELINES FOR THE DEVELOPMENT OF CERTIFICATE PROGRAMS AT  
INDIANA UNIVERSITY  
Approved: April 7, 2006**

**I. The Purposes of Certificate Programs**

Certificate programs provide a means for Indiana University to respond with a high degree of flexibility in meeting emerging needs for educational programs. They may address professional development needs of practitioners in a wide variety of areas, or they may provide focused areas of study for students pursuing other academic programs.

Certificate programs may be offered at the undergraduate and graduate levels and may be either credit or non-credit programs. Certificate programs which are based entirely on credit courses are university programs established through a formal approval process (see below). They culminate in Trustee approval for awarding a certificate as the functional equivalent of a diploma. Non-credit certificate programs may be established by any academic unit, subject to campus-level approval policies, and the certificate will be awarded by the unit to those completing the program.

These programs of study are intended to be housed and supported within existing academic units. Credit certificate programs typically will be primarily comprised of courses already present in the curriculum. Generally, courses required in credit certificate programs will apply to related degree programs in the supporting academic unit. Thus, credit certificate programs often perform a recruitment function, serving as stepping stones to participation in a degree program.

**II. Criteria for Credit Certificate Programs**

1. Ordinarily includes 12-29 credit hours. (30 credit hours or more requires ICHE approval.)
2. Has a clearly defined audience(s).
3. Is composed of an integrated, focused curriculum.
4. Based on specific learning objectives.
5. Includes an assessment plan/process focused on the achievement of the learning objectives
6. Has admission criteria and process.
7. Is able to stand alone or be part of another curriculum, but is not automatically earned by completing the requirements for a major.
8. Includes no hidden pre-requisites.
9. Usually built on current faculty and facility resources.
10. May be graduate, undergraduate, or post-baccalaureate (undergraduate).
11. Will normally be titled using one of the following:
  - Certificate in \_\_\_\_\_
  - Post-Baccalaureate Certificate in \_\_\_\_\_
  - Graduate Certificate in \_\_\_\_\_

### **III. Process for Development of Credit Certificate Programs**

1. The first step in the process is for the head of the academic unit to notify the campus vice chancellor for academic affairs of the intention to proceed with the development of a certificate proposal.
2. Proposals must be prepared in the format available from the campus Vice Chancellor for Academic Affairs.
3. Proposals must approved through the appropriate campus curriculum approval processes.
4. When appropriate, the certificate program proposal must be approved by the system-wide or core school. Graduate certificates must be approved by the appropriate graduate unit. System-wide or core school certificate program proposals must be approved by all affected campuses.
5. If additional state funding is required to offer the certificate, the chancellor or designated academic officer of the campus where the program is to be offered must submit one (1) copy of the program proposal to the University Budget Office, which will work with the academic unit in developing consistent approaches to estimating cost and identifying income sources for the program budget.
6. Following University Budget Office approval of the budget (if relevant) and completion of campus reviews, an electronic copy of the certificate program proposal is submitted to the chair of the Academic Leadership Council (ALC) by the campus vice chancellor for academic affairs/dean of faculties or by the dean of a system-wide school.
7. The chair of ALC will provide copies to members of the council approximately ten (10) days prior to its next scheduled meeting. ALC may approve with or without suggesting alterations, return to the initiating campus, table or defer, or disapprove. If approved, the proposal is forwarded to the Office of the Executive Vice President.
8. The Office of the Executive Vice President places the certificate program on the Trustee administrative action report.
9. If the certificate program requires thirty (30) or more credit hours, the Office of the Executive Vice President sends two (2) copies of the proposal to the ICHE for approval. The ICHE notifies the chief academic officers of the other six (6) state institutions of higher education and offers to send a copy of the proposal to parties that request them.

**Indiana University  
Request for a New Credit Certificate Program**

Campus: **Indiana University Purdue University Indianapolis**

Proposed Title of Certificate Program: **Graduate Certificate in Media Arts and Science**

Projected Date of Implementation: **Fall 2008 Semester**

TYPE OF CERTIFICATE: (check one)

**UNDERGRADUATE CERTIFICATES** – These programs generally require 12-29 credits of undergraduate-level academic work.

**GRADUATE CERTIFICATES** – These programs generally require 12-29 credits of graduate-level academic work or undergraduate academic work carrying graduate credit.

**POST-BACCALAUREATE CERTIFICATES** –These programs generally require 12-29 credits of undergraduate-level academic work, although students enrolling in these programs must have completed their baccalaureate degrees.

## **I. Why is this certificate needed? (Rationale)**

### ***Background***

Increasingly, the new media and communication technology fields are demanding professionals trained with skills that are augmented by the knowledge and best practice of Media Arts and Science (MAS). Moreover, the demand for these relevant skill-sets (both creative problem-solving and technical), are especially growing in Indiana.

Although students with a B.S. degree in MAS have begun to fill this demand in the current job market, there is an ever growing need to make the core knowledge and skills of the MAS discipline more available at the graduate level, but without the need to complete a full 36 credit hour M.S. degree program. For example, the historical student of the current MAS M.S. program is drawn from a broad range of disciplines outside the new media area. When this large population of potential students considers the M.S. program, their intent is to build upon their existing non-MAS background with a new range of skill-sets and knowledge in new media. Often, however, many of these non-traditional (older) students do not have the time or resources to complete a full 36 credit hour M.S. degree.

### ***Goal***

The goal of the Graduate Certificate in MAS is to provide a concentrated version of the M.S. program for students who desire to obtain a range of skill-sets and knowledge in new media; without the research component of the full M.S. program (i.e., as seen in I501, I575, and the thesis requirement). The 18 credit hour program provides the core knowledge and skills necessary to supplement existing professional knowledge for current positions in industry, while also provide foundational knowledge that allows students to continue on to acquire a full M.S. degree in MAS if desired.

## **II. List the major topics and curriculum of the certificate.**

### **Major topics include:**

- New media principles and practices in the context of real-world problem-solving.
- The solution-centered application of new media production as realized through specialized media areas of focus, including integrated media and animation.
- Principles and techniques of human-centered design and usability as applied to new media production.

### **Curriculum**

The General Course Requirements include 18 credit hours: 9 credits composed of three core courses and 9 credits composed of two specialization courses.

### **Specific Course Requirements include:**

#### **Core Courses (9 credits)**

- N500 Foundations of Media Arts Production
- N501 Principles of Multimedia Technology
- I543 Usability and Evaluative Methods in Interactive Design

#### **Specialization Electives (9 credits)**

- Specialization course 1
- Specialization course 2
- Specialization course 3

**Specialization Elective List** (Select 3 courses from this group)

- N502 Digital Media Motion and Simulation Methods
- N503 Multimedia Design Applications
- N504 Advanced Interactive Design Applications
- N510 Web Database Concepts
- I541 Human-Computer Interaction Design I (HCI 1)
- I543 Usability and Evaluative Methods in Interactive Design
- I503 Social Impact of Information Technologies
- N510 Web database concepts (P: N503)
- CS507 Object-Oriented Design and Programming
- CS550 Computer Graphics

### III. What are the admission requirements?

Admission requirements and procedures are the same as those established for the Media Arts and Science Program Master's Degree in the School of Informatics. Applicants may apply in both the fall and spring. Specifically, students will be required to submit an application through the graduate school and receive a full review by the Informatics Graduate Admissions Committee. The candidate review process will take place for both master's and certificate seeking applicants simultaneously. Moreover, certificate seeking applicants will need to submit the same documentation and meet the same criteria as master's seeking students. The requirements include:

- Evidence of an undergraduate degree: Transcripts of all undergraduate and graduate work must be provided
- Minimum Overall Grade Point Average: 3.0 (4.0 point scale)
- Three letters of recommendation: Letters of recommendation should include letters from current or recent academic instructors and/or employers
- Scores from the Graduate Record Examination: Candidates do not need to submit GRE scores unless they are requesting financial support from the School of Informatics in the form of a scholarship, fellowship, graduate research assistantship, etc. GREs are not required for the MAS Graduate Certificate.
- Statement of purpose: The statement is written by the applicant to explain his or her reason for applying to the program and what career path they plan to take upon graduation. They may also outline their research interests and name a particular faculty member in the school that they are interested in studying under. (Maximum length of the statement should be 1500 words.)
- Portfolio or other evidence of academic excellence: If an applicant has a background in fields that are more visual/graphic in nature, they should provide a professional portfolio. The work may be provided through submitting a CD or a Web site dedicated to the applicant's work. Applicants who do not have a visual/graphic background, are encouraged to provide other samples of their academic writing, published papers, software or programs, or any other evidence of scholarship. It is imperative that applicants use their Statement of purpose to explain the contents of the portfolio or other submitted work.

**IV. List the major student outcomes (or set of performance based standards) for the proposed certificate.**

**Students will obtain knowledge to understand, analyze, and discuss:**

- The ever-changing field of Media Arts and Science through studying literature and accomplished projects, including:
  - Past, current, and emerging trends in new media technology, both from a theoretical, historical, and applied perspective
  - Terms and summations about the principles and practices of new media technology; as well as its interdisciplinary relationship to Informatics
  - Two main characteristics of digital media; interactivity and immersion, in the context of digital storytelling
- Hard and soft new media technologies that extend and promote the utilization of digital storytelling through a wide array of problem-based scenarios
- The most current and interesting theoretical issues in digital media technology and the social cultures that surround them
- Evaluative feedback on several new media case studies
- Controversial and important social issues in digital media communication related to copyright, intellectual property, and ownership
- New media product management principles and practices as applied in real-world contexts
- Conceptualization processes, creative problem-solving, critical thinking theory, as applied to new media technology design and development
- Theory and practice of human-centered design and usability as it applies to new media technology; specifically related to:
  - Usability theory, terms, and the tools
  - A user-centered approach to interaction design
  - The purpose of the graphic user interface
  - The design and use of the prototyping processes
  - User testing theory and tools
  - User requirements and profiling principles and practices
  - Interface design standards / guidelines for cross cultural and disability users

**Students will be able to:**

- Apply the practices of interactivity and immersion through applied laboratory project-based sessions in the areas of three-dimensional visualizations/animations/simulations, virtual worlds, integrated media (e.g., the web), and/or video production.
- Examine various topics of new media that apply to production based narratives or visualizations in 3D; with a particular focus on techniques derived from previously published literature on 3D based productions.
- Write a graduate level research paper on a selected new media phenomena
- Demonstrate achievement in new media production through the ability to: 1) work in a team environment producing a pre-defined product and apply efficient time and production management using project development principles and practices
- Demonstrate the ability to work with elements on a multimedia project or web site design (Note: The breadth and depth of knowledge of the application text, graphics, sound, animation, and video will depend on the students area of specialization within the field of new media.)
- Demonstrate the ability to work in a team environment producing a pre-defined product in new media

- Demonstrate efficient time and production management using project development
- Demonstrate the knowledge of creative problem-solving and design thinking, and its direct application to any range of new media technologies.

**V. Explain how student learning outcomes will be assessed (student portfolios, graduate follow up, employer survey, standardized test, etc.) and describe the structure/process for reviewing assessment findings for the purpose of ensuring continuous improvement of the certificate.**

Because the Media Arts and Science Graduate Certificate Program will require no final thesis, project, or capstone, each course has its own criteria for assessing learning outcomes. Instructors are aware of the interrelationship of the courses and their respective content. Hence, all faculty are instructed to build upon the existing knowledge domain that students have acquired in earlier courses.

In the context of the entire Certificate Program, graduate student advisors will mentor and monitor each student's progress throughout their time in the program; and at the conclusion of the program the following assessment processes will take place:

- After completing all course work within the certificate program, students will be required to meet with their advisor and/or the program director for an exit review and assessment of learning outcomes within the student's area of specialization.
- The final review will consist of an evaluation of their final projects from their three specialization courses. These final projects will embody a collective portfolio of the student's work, i.e., from the three courses. (Students will be permitted to place other relevant new media projects or written materials into the portfolio if they desire to do so.)
- Final projects will be compared to course learning outcomes to assess whether students have acquired the necessary knowledge and skill-sets from each course.
- During the final review, students will also be provided an exit interview to identify problem areas that need attention in each of the courses they took within the program.
- Finally, to ensure the increasing quality of the Graduate Certificate, the Media Arts and Science Graduate Committee will:
  - Meet annually to:
    - Review the past year's student reviews and the contents of each exit interview (This will take place in late spring, to make adjustments for the follow school year.)
    - Assess student performance scores for each course within the program
    - Assess and examine some of the final student projects relative to learning outcomes.
  - Seek further guidance from the MAS Advisory Board for their insight into emerging technologies and practices that may need to be integrated into the certificate curriculum. (The Board consists of approximately 25 companies who are the leaders in new media in the central Indiana area.)

**VI. Describe student population to be served.**

The student populations served by this program are individuals whose academic or professional needs are not met by existing degrees in the area of new media currently offered in central Indiana. As with the M.S. MAS degree, this program was designed primarily for those who work full time, but are not interested in a 36 credit hour program. At the same time, as we develop the online component of the

program, students locally and from around the world may be able to enroll. Also, graduates from the program will choose to either enhance their current skill-set with the five courses or choose to continue their learning in the MAS Master's Program. In either case, certificate seeking students will receive knowledge and skills that are applicable to their particular new media interests.

**VII. How does this certificate complement the campus or departmental mission?**

This program will leverage the strengths of the already established M.S. MAS program in the School of Informatics on the IUPUI campus. Students in the certificate program will take the same courses as those in the masters program. Hence, the program and campus missions also remain the same in regard to providing the highest caliber of education to our students. As a result, the certificate program will promote the campus's mission of enhancing the educational and professional attainment of the residents of central Indiana by offering education opportunities with a direct application by improving the new media workplace.

**VIII. Describe any relationship to existing programs on the campus or within the university.**

The MAS graduate certificate program will not compete with any other programs at IU or IUPUI. As the same time, letters of support from programs of similar knowledge domains have provided letters of support for the certificate program; as reviewed by the IUPUI Graduate Affairs Committee.

**IX. List and indicate the resources required to implement the proposed program. Indicate sources (e.g., reallocations or any new resources such as personnel, library holdings, equipment, etc.).**

No new resources are needed. All courses are currently taught at IUPUI by existing faculty. However, additional full time and adjunct faculty will be hired if the program grows beyond our current capacity.

**X. Describe any innovative features of the program (e.g., involvement with local or regional agencies, or offices, cooperative efforts with other institutions, etc.).**

Initially there will be no outstanding innovations to this program.