

Application for State Approval of Teacher Preparation Specialty Programs

**Michigan Department of Education, Office of Professional Preparation Services
P.O. Box 30008, Lansing, Michigan 48909
Phone: (517) 335-4610 *** Fax: (517) 373-0542**

Directions:

- For each new, amended, or experimental program, a separate application is required.
- Application and all documentation are to be submitted electronically.
- Fax or mail only the cover page that is signed by the unit head.
- All correspondence regarding this application should be addressed to the consultant/coordinator identified on Application Attachment 1.

I. Application Information	
Institution	The University of Detroit Mercy
MDE Endorsement Area and Code (from Application Attachment 2)	Integrated Science (DI)
Date of this Application	October 17, 2005
Name and Title of Unit Head	Donald G. DiPaolo, Ph.D. Chairperson Department of Education in the College of Liberal Arts and Education
Signature of Unit Head	

II. Contact Information for Questions Related to This Application	
Contact Person's Name and Title	E. Lea Schelke, Ed. D. Director of Special Projects
Contact Person's Phone Number	313 578 0545
Contact Person's Fax Number	313 578 0547 (Schelke) or 313 578 0507 (UDM Education)
Contact Person's E-Mail Address	schelkel@udmercy.edu

III. Type of Request for Approval		(Indicate One)
New program for institution		
U.S. Department of Education Classification of Instructional Programs (CIP) Code, if vocational occupational area		
Compliance with State Board of Education new or modified program criteria		Request
Experimental program		
Program amendment (See Section IX for guidelines)		

IV. Institutional Representatives

Please list individuals available to serve on Michigan Department of Education Ad-Hoc Committees Related to this Specialty Program (e.g., program review, standards development, test development, forum planning). Include both higher education faculty and K-12 representatives.

Name/Title	Specialty	Mailing Address	E-Mail Address	Phone	Fax
Elizabeth Roberts-Kirchhoff, Ph.d.	Biochemistry	Department of Bio & Biochemistry 4001 W. McNichols Road Detroit, MI 48221-3038	robkires@udmercy.edu	313 993-1021	313 993-1144
Katherine Lanigan, Ph.D.	Physical Chemistry	Department of Bio & Biochemistry 4001 W. McNichols Road Detroit, MI 48221-3038	lanigakc@udmercy.edu	313 993 1569	313 993-1144
Joslen Letscher, Ph.D.	Curriculum and Instruction (Bachelor and Master's Degrees in Science)	Department of Education 4001 W. McNichols Road Detroit, MI 48221-3038	letschjl@udmercy.edu	313 578 0483	313 578 0507
Greg Grabowski, Ph.D.	Cell Biology and Anatomy	Department of Biology 4001 W. McNichols Road Detroit, MI 48221-3038	grabowgm@udmercy.edu	313 993 1181	313 993 1139
Rod Wakeham	Master's: Biology and Chemistry	Trenton High School 2603 Charlton Road, Trenton, MI 48183	wakehamr@trenton.k12.mi.us	734 692 4530	734 692 4615
Robert Ross, Ph.D.	Solid State Physics	Department of Physics/ Bio & Biochemistry 4001 W. McNichols Road Detroit, MI 48221-3038	rossra@udmercy.edu	313 933 1480	313 993-1144

V. Program Information	
Program Summary	<p>Prepare a program narrative (<i>5-6 page maximum</i>) which: PLEASE SEE APPROPRIATE FOLDER, FORM XX AND PROGRAM SUMMARY.</p> <ul style="list-style-type: none"> • Describes the philosophy, rationale, and objectives of the specialty program and explains how the program is consistent with the philosophy, rationale, and conceptual framework of the unit. • Describes the sequence of courses and/or experiences to develop an understanding of the structures, skills, core concepts, ideas, values, facts, methods of inquiry, and uses of technology. • Describes how candidates are prepared to utilize a variety of instructional approaches to address the various learning styles of students. • Describes any differences that may exist between elementary or secondary preparation to teach in each major or minor area (e.g., instructional resources, field placements, instructional techniques), if applicable. • Describes how the program incorporates gender equity, multi-cultural, and global perspectives into the teaching of the subject area. • Describes how the program prepares candidates to use multiple methods of assessment appropriate to this specialty area.
Program Coursework	<p>Complete Application Attachment 3 showing the required and elective courses for this program. This list should include the following information. PLEASE SEE APPROPRIATE FOLDER, FORM XX.</p> <ul style="list-style-type: none"> • Contact person for specialty program. • Course title and number. • Number of semester hours for required and elective courses. • Designation for elementary, secondary, or K-12 certification. • Course descriptions. <p>Please refer to the Quick Reference Chart at http://www.michigan.gov/documents/MinimumRequiredHoursSpecialty-AreaProgramA21931_74344_7.PDF for available program options and required semester hour minimums.</p>

VI. Content Guidelines/Standards Matrix
<p>Complete the Content Guidelines/Standards Matrix (a sample format is provided in Application Attachment 2); appropriate program standards must be selected for each program: PLEASE SEE THE APPROPRIATE FOLDERS, FORM XX AND STANDARDS MATRIX.</p> <ul style="list-style-type: none"> • Standards approved by the Michigan State Board of Education (SBE) can be found in matrix format at http://www.michigan.gov/mde/0,1607,7-140-5234_5683_6368-24835--,00.html • A list of standards to use for each specialty program can be found at http://www.michigan.gov/documents/Standards_to_use_for_Approval_of_Each_Specialty_Program_11_109415_7.04C44693_A74354.doc

VII. Supporting Documentation	
Field Experiences	<ul style="list-style-type: none"> Describe how candidates for majors and minors in specific specialty programs participate in early field experiences in K-12 schools. PLEASE SEE THE APPROPRIATE FOLDER, PART 1. Describe aspects of the student teaching experience for certification candidates that enhance the applicants' abilities to teach in this specific specialty area. Are candidates in your institution assigned to K-12 classrooms as student teachers in both their major and minor (if applicable)? <p>Elementary candidates (Grades K-8) are assigned to an elementary classroom for a full day of student teaching for a full semester, 14 weeks. If candidates request assignment to a specific field such as Integrated Science, they are placed in a middle school with a grade 6-8 classroom science teacher. Otherwise, candidates are placed in a comprehensive K-5 classroom. If, however, the K-5 school has departmentalized or team teaches the core courses (Language Arts, Mathematics, Reading, Science, Social Studies), an Integrated Science major candidate would be assigned to the Science specialists.</p> <p>Secondary candidates (Grades 7-12) are assigned to a secondary classroom in their major field for a full day of student teaching for a full semester, 14 weeks. When a Cooperating Teacher's schedule is not for a full day in the candidate's major subject area he/she is assigned to his/her minor endorsement area for the remaining parts of the day. If the Cooperating Teacher's assignments match the candidate's minor, he/she may remain with the Cooperating Teacher. If the candidate's minor is different, arrangements are made with another cooperating Teacher in the building who teaches in the minor field for the remaining parts of the day.</p>
Instructional Methods	<ul style="list-style-type: none"> Describe how candidates are prepared to teach in this specific specialty area. PLEASE SEE THE APPROPRIATE FOLDER. PART 2
Course Descriptions	<ul style="list-style-type: none"> Provide descriptions of all courses contained on Application Attachment 3. Descriptions must provide enough information to show that standards could logically be met in these courses. PLEASE SEE THE APPROPRIATE FOLDER, PART 3.
Syllabi	<ul style="list-style-type: none"> Provide a representative syllabus for each required course (those listed on Application Attachment 3 and referenced in the standards matrix). PLEASE SEE THE APPROPRIATE FOLDER, PART 4.
Faculty	<ul style="list-style-type: none"> Please complete the <i>Instructional Faculty</i> table from Application Attachment 5. PLEASE SEE THE APPROPRIATE FOLDER, PART 5. Include all faculty teaching the courses shown on the <i>Summary of Course Requirements for Specialty Program</i> (Application Attachment 3), including those who may be temporary or non-tenure stream. List additional faculty positions that will be added if this program is approved. <p>The Biology, Chemistry, Geography, and Physics courses listed for this Integrated Science (DI) program can be covered by the Current College of Engineering and Science and the College of Liberal Arts faculties. The Department of Education currently has submitted a proposal to the CLAE administration for three additional foundation and two special education faculty members. Those positions will service all education courses and programs; they are not contingent upon state approval of our DI proposal.</p>

VII. Supporting Documentation

Technology	<ul style="list-style-type: none">• Describe how this program will utilize technological resources. <p>The DI Integrated Science program utilizes appropriate technological resources in the courses and laboratories offered in Biology, Chemistry, and Physics (College of Engineering and Science. UDM's Core Curriculum requires students to complete CIS 100 Introduction to Computers or whichever CIS course the results of their entry diagnostic test indicates. Students, therefore, are literate in word processing, spread sheets, data base, the internet, and presentation software programs within the first semester of university enrollment. While some of the Sciences and Education faculty use the University Blackboard program for communication with the students in their courses, all faculty communicate with students and colleagues via email and attachments. They also include internet and web sources for completing assignments and scientific investigations. The specialized technology required for specific science courses and laboratories is used appropriately in the courses. Some examples: The Biology department uses traditional technologies such as microscopes, spectrophotometry, and carbon dioxide incubators as well as environmental growth chambers and rapid response with palm pilots for checking responses. The Chemistry department requires their students to use appropriate technology such as spectrophotometric for measuring light absorption to determine chemical concentrations. Students also use Excel software to plot and analyze their data for lab reports and more extensive papers (plot titration curves and trend lines from the spectrophotometric data). Physics instructors also require their students to use computer based technology to measure motion and velocity; motion sensors to measure position and velocity of an objects; force sensors to measure how hard an object is being pulled or pushed; and software to plot and analyze their data for lab reports and more extensive papers. The Education Department maintains an Education Computer Laboratory in the University library for use by entire classes and/or individual students. EDU 459 Instructional Technology and EDU 600 Computer Uses in Education are designed as an introduction and exposure to technology and its uses in all phases of instruction with special attention to realistic application in the classroom. It focuses on the integration of curriculum and technology with practical hands-on projects using computers, cameras, the Internet, and electronic communication. The final project is an interdisciplinary project that is presented to the class with Power point and other technology software. The course design is based on Michigan State Board of Education standards for technology as well as those of national technology organizations. The Education department works closely with the Library liaison and uses the library professional staff and electronic resources heavily for research and other course work.</p>
Vocational Work Experience	<ul style="list-style-type: none">• If applicable, please describe the structure and content of the required vocational work experience program. How is this evaluated? <p>Vocational work experience is not required for the Integrated Science (DI) proposed program.</p>

VIII. Experimental Program Description (Rule 53)	
Program Purpose	<p>Attach a statement describing the purpose and objectives(s) of this preparation program. Please include the following:</p> <ul style="list-style-type: none"> • Employer Needs/Student Aspirations. • National/Statewide Needs (for content area, level, diversity, etc., as per the goals of the experimental program). • The number of candidates you anticipate preparing for this endorsement during each of the first three years, if this program is approved.
Program Design	<ul style="list-style-type: none"> • The hypothesis being tested. • The design of the program (including all courses). • Control and experimental groupings. • Assessment and evaluation instruments and techniques.
Program Duration	<p>Specify the period of time you wish for the experimental program to be in effect. Approval by the State will normally be granted for a time period of three to five years. Once approved, institutions should submit annual reports, including any changes in the experimental program design, and an analysis of evaluation data.</p>

IX. Guidelines for Applying for Amendments to Currently Approved Teacher Preparation
<p>If the amendment is very minor (e.g., change in a course number(s), change in course sequence, minor modification to a course, etc.) and does not affect how the program standards are met, the amendment may be described in a letter to the Office of Professional Preparation Services. Minor amendments do not require official State approval and are filed with program documentation previously submitted. If the proposed amendment is not clear, or if more information is needed, the institution will be contacted by the Office of Professional Preparation. Once approved, the description of the amendment will be attached to the program application that is currently on file.</p> <p>If the amendment is more extensive, or is submitted in response to new state standards, a complete “Application to Request State Board of Education Approval for Professional Preparation Programs” should be submitted to the Office of Professional Preparation Services. (Institutions may copy, for inclusion in the new application, any sections of the previously approved application that have not been affected by the amendment.)</p>