The University of Arizona

GUIDELINES
FOR
GRADUATE CERTIFICATE APPROVAL

Directions:
1. Provide information regarding the proposed graduate certificate in the format requested on the attached pages. Respond to each item individually using “not applicable” where appropriate.
2. Obtain signatures of the proposed unit administrator and department or committee head and college dean or Director of GIDPs.* Signature verifies that the proposal has received faculty approval through appropriate procedures and that the unit has the resources to support the certificate.
3. Forward the original and one copy to the college office for the dean’s signature and retain a copy for departmental files.
4. The dean should forward the original to Academic Programs, Attn: Sandra Gonzales, CCIT 337, and retain the remaining copy for college files. An electronic version of the documents with appropriate signatures is preferred but not required.
5. Documents must be submitted in a timely manner to move through the campus approval process. UA campus protocols include review of the appropriate Graduate Council; Provost Management Group; and Academic Council (deans) review; Instruction and Curriculum Policy Committee of the Faculty Senate; and the Faculty Senate for final formal approval.

Initiating college, department, or committee:

Mel and Enid Zuckerman College of Public Health

Title of this proposal: Graduate Certificate in Public Health

Unit Administrator: Douglas Taren, PhD, Associate Dean for Academic Affairs

Signature: Date: MARCH 21, 2007

College Dean: (Signature) Date: 3-21-07

*In some situations signatures of more than one dean or department head may be required. If the program changes have a commitment of resources from other than the initiating unit, the signature of the collaborating department/committee head and collaborating college dean is also required. If you have any questions, please contact Sandra Gonzales, CCIT 337, 621-1847.
GRADUATE CERTIFICATE APPROVAL

I. Certificate Name and Description:

• Name of the certificate:
  Graduate Certificate in Public Health

• Managing college, department, and oversight committee membership:
  College: UA Mel and Enid Zuckerman College of Public Health
  Department: Not applicable
  Oversight Committee: Faculty Members on the Education Committee

  Committee Membership:
  Sylvan Green, MD
  Robin Harris, PhD
  Alison Hughes (interim)
  Nicolette Teufel-Shone, PhD
  Mary Kay O’Rourke, PhD
  Lisa Staten, PhD
  Douglas Taren, PhD (Associate Dean)

• Specify whether the certificate is affiliated with an existing degree program or is a stand-alone certificate.
  The certificate is affiliated with the Master in Public Health degree. The certificate consists of the five core courses (listed in Section II) that are required of all MPH graduates.

II. Certificate Requirements – Any changes to the originally approved certificate must be approved by the Graduate College.

• List the certificate requirements, including number of credit hours required and any special requirements for completion.
  The Graduate Certificate in Public Health will be comprised of the five core courses in the Master of Public Health degree for a total of 15 credits.

• List current and new courses needed to meet certificate requirements.
  No new courses are required for implementation of this graduate certificate. Current courses are listed below:

  CPH 573A – Basic Principles of Epidemiology (3 credits)
  Description: Course will introduce students to the basic concepts and principles of epidemiology and how these concepts are applicable for their own particular interests and careers in epidemiology related fields.
CPH 574 – Public Health Policy and Management (3 credits)
Description: Management processes/roles of public health professionals; health service organization; policy issues and resource utilization/control; human resources management; public health trends.

CPH 575 – Environmental and Occupational Health (3 credits)
Description: Examination of living/working environments impacting human health; chemical and physical stressors affecting health; techniques for assessing and controlling risks in air, soil and water.

CPH 576A – Biostatistics for Public Health (3 credits)
Description: This course introduces biostatistical methods and applications, and will cover descriptive statistics, probability theory, and a wide variety of inferential statistical techniques that can be used to make practical conclusions about empirical data. Students will also be learning to use a statistical software package (STATA).

CPH 577 – Sociocultural and Behavioral Aspects of Public Health (3 credits)
Description: Social learning theory, diffusion of innovations, relationship of cultural values to behavioral change, social marketing, high risk behavior intervention strategies, and communication issues.

Regular grades (A B C D E) will be awarded for all courses required for this certificate.

- Describe any courses that will be offered via distance learning or other distributed methods.

All five courses required for the certificate will be offered via distance learning. Three of the five are currently available on-line. A fourth course will be on-line starting summer 2007. The remaining course is in the process of being converted to a distance learning format. Students will have the option of either attending class on site or taking the class through the Desire2Learn (D2L) web-based course management system by fall 2007.

- Student Learning Outcomes

Upon completion of the certificate program, students will be able to demonstrate the following knowledge and skills in the five core academic disciplines of public health:

**Epidemiology**

1. Discuss considerations for establishing the association between an attribute and a health outcome as causal,
2. Calculate and interpret various measures of disease frequency and association,
3. Recognize the usefulness and relative advantages and limitations of various epidemiological study designs,
4. Identify potential sources of bias which can occur in various study designs,
5. Constructively evaluate research and scientific reports from the literature.
Public Health Policy and Management

1. Identify the main components and issues of the organization, financing and delivery of health services and public health systems in the U.S.
2. Describe the legal and ethical bases for public health and health services.
3. Explain methods of ensuring community health safety and preparedness.
4. Discuss the policy process for improving the health status of populations.
5. Apply principles of program planning, development, budgeting, management and evaluation in organizational and community initiatives.
6. Apply principles of strategic planning and marketing to public health.
7. Apply quality and performance improvement concepts to address organizational performance issues.
8. Apply “systems thinking” for resolving organizational problems.
9. Communicate health policy and management issues using appropriate channels and technologies.
10. Demonstrate leadership skills for building partnerships.

Environmental and Occupational Health

1. Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety.
2. Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents.
4. Describe genetic, physiologic and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental hazards.
5. Discuss various risk management and risk communication approaches in relation to issues of environmental justice and equity.
6. Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental exposures.
7. Develop a testable model of environmental insult.
8. Describe federal and state regulatory programs, guidelines and authorities that control environmental health issues.

Biostatistics

1. Identify the properties of given data sets, including the level of measurement.
2. Apply appropriate descriptive statistics to the data according to its measurement type.
3. Apply appropriate inferential statistics to the data according to its measurement type.
4. Formulate and test hypotheses.
5. Use a computer statistical software package (Stata) to accomplish objectives 2-4.
6. Apply your statistical knowledge to the design of research studies, including selection of proper research design and determination of sample sizes necessary to show statistical significance.
7. Interpret and critique medical and scientific journal articles which frequently rely heavily on statistical procedures.
Sociocultural and Behavioral Aspects of Public Health

1. Identify basic theories, concepts and models from a range of social and behavioral disciplines that are used in public health research and practice.
2. Identify the causes of social and behavioral factors that affect health of individuals and populations.
3. Identify individual, organizational and community concerns, assets, resources and deficits for social and behavioral science interventions.
4. Identify critical stakeholders for the planning, implementation and evaluation of public health programs, policies and interventions.
5. Describe steps and procedures for the planning, implementation and evaluation of public health programs, policies, and interventions.
6. Describe the role of social and community factors in both the onset and solution of public health problems.
7. Describe the merits of social and behavioral science interventions and policies.
8. Apply evidence-based approaches in the development and evaluation of social and behavioral science interventions.
9. Apply ethical principles to public health program planning, implementation and evaluation.
10. Specify multiple targets and levels of intervention for social and behavioral science programs and/or policies.

III. Student Admittance/Advising/Completion:

- Are there prerequisites or standardized tests required for admission?

  Students must be accepted through the Graduate College, following their standard application for Admission for Graduate Study. No standardized tests are required for admission.

- Is concurrent enrollment in a degree program allowed, required?

  Concurrent enrollment in a degree program is allowed but not required.

- Is there a University credit requirement?

  Applicants to the Graduate Certificate in Public Health program are required to have a Bachelor's degree or its equivalent from an accredited college or university and show strong academic achievement and scholarship (a G.P.A. of 3.0 or more in the last 60 undergraduate units or if the applicant has 12 or more graduate units, the G.P.A. will be based on graduate units).

- Will transfer credit from other institutions be accepted? How many credit hours maximum?


Transfer credit from other institutions will be accepted; however, no more than six transferred credits may be used to meet certificate requirements. Course work taken more than two years prior to admission to a certificate program cannot be transferred.

- **What provisions are included for student advising?**

  Student advising will be handled by the MEZCOPH Office of Student Services and Alumni Affairs. This office currently provides student advising services for MEZCOPH graduate and undergraduate degrees, and certificates.

- **May a student change from a certificate to a degree program? What are the provisions?**

  A student may change from the Graduate Certificate in Public Health to the Master of Public Health degree program by submitting an application to the M.P.H. program via the centralized application service, SOPHAS (Schools of Public Health Application Service). Applicants will be considered for admission into the program along with all other candidates applying for the upcoming fall semester. All five M.P.H. core courses will be allowed to transfer to the Master of Public Health degree program if the student’s performance is consistent with admission requirements.

IV. **Certificate and Student Outcomes**

- **Provide a plan and frequency for assessing the intended certificate outcomes both for students and the certificate.**

  Certificate outcomes will be assessed by means of a written survey administered each semester to students enrolled in the certificate program. The evaluations will be summarized to determine areas for improvement, adequacy of the web-based technology to meet course and/or program objectives, and capability of support services to meet the needs of distance learning students. Additionally, students will be queried regarding the extent to which they believe the certificate met their need for continuing education and whether or not it was beneficial to job placement and/or career advancement.

V. **Student Demand – Is there sufficient student demand for the certificate?**

- **What is the anticipated student enrollment for this certificate?**

  Anticipated student enrollment for the first year is 25 students.

- **Will there be any collaboration with other departments or universities to maximize resources?**

  It will not be necessary to collaborate with other departments or universities as all courses required for the certificate are currently offered through MEZCOPH.
Program demand/need.

Arizona has neither an adequate number of public health personnel nor a public health workforce that is adequately trained to meet the challenge of reducing health disparities in the state. Among Arizona’s counties, there is a range of 37-77 public health professionals per 100,000 population in comparison to the national figures of 158 per 100,000 population for the year 2000, placing Arizona in the lowest public health worker per population ratio category in the nation. In addition to having fewer professionals, the average age of public health professionals within the county and state public health systems is between 41-50 years of age. At the opposite end of the spectrum, tribally-based public health programs, have a workforce in which over 60 percent are under the age of 30. Overall, 46 percent of public health workers in Arizona have less than a baccalaureate degree. Three percent of Arizona’s public health professionals hold a Master of Public Health degree, of those: 10 percent are in the state health department, 16 percent are in the Indian Health Service and just 2 percent are in county and tribal health departments. Thus, Arizona has a sparse, aging (or very young), and under-trained public health workforce despite having some of the greatest health disparities in the nation, disproportionately affecting its Hispanic and American Indian populations.

According to the 2000 U.S. Census, there are 256,532 American Indians and 1,298,050 Hispanics residing in Arizona – 30% of the total population. The state, housing 21 American Indian tribes, has more Native Americans under the age of 18 than any other state in the country. It is projected that, by the year 2010, under-represented minorities will outnumber Whites in the state. Of the 15 counties in Arizona, every one has populations known to be at highest risk of health disparities. Hispanic and American Indian populations have the greatest health disparities in Arizona. Health disparities are particularly striking for the measure of premature death; since 1989, the average age at death of American Indians has been 15-16 years younger than for the total Arizona population. In 2004, the average age at death for Arizona women was 75; for Arizona Hispanic women, 64; and for Arizona American Indian women, 60. For all Arizona men, the average age at death is 68; for Arizona Hispanic men, 55; and for Arizona American Indian men, 52.

The 2005 Arizona Behavioral Risk Factor Survey (BRFS) also provides measures of health disparities for our highest risk populations. The 2005 BRFS shows the percent of Hispanics in Arizona without health insurance at 48%, those having no health coverage – 39%, never having had high blood pressure screening – 18%, have not had their cholesterol checked within last 5 years or never – 56%, being overweight – 23%, current smokers – 21%, and having low fruit and vegetable consumption – 80%. With Hispanics representing 25% of Arizona residents, this presents a considerable challenge to the public health workforce. Comparable statistics for American Indians were not available in 2005.

Given the difficult challenge we face to improve health status indicators and reduce disparities, development of Arizona’s public health workforce is imperative. MEZCOPH is in the unique position of being able to meet this need by providing advanced training in public health in a distance learning format. It is often difficult for individuals working full
time to attend on-site classes either due to family obligations, travel requirements, and/or time restrictions. An on-line certificate program enables individuals to advance their education without relocation or loss of time from work. This new certificate program will enable MEZCOPH to educate public health workers in the many rural and remote regions of the state which is critical to improving the competency of our workforce and essential to improving the health of our communities.

VI. Expected Faculty and Resource Requirements

- List the name, rank, highest degree and estimate of level of involvement of all current faculty who will participate in the program.

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank</th>
<th>Highest Degree</th>
<th>Level of Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney Pettygrove</td>
<td>Assistant Professor</td>
<td>Ph.D.</td>
<td>CPH 573A</td>
</tr>
<tr>
<td>Eyal Shahar</td>
<td>Professor</td>
<td>M.D., M.P.H.</td>
<td>CPH 573A</td>
</tr>
<tr>
<td>Merrill Eisenberg</td>
<td>Assistant Professor</td>
<td>Ph.D.</td>
<td>CPH 574</td>
</tr>
<tr>
<td>Kenneth Schachter</td>
<td>Assistant Professor</td>
<td>M.D., M.B.A.</td>
<td>CPH 574</td>
</tr>
<tr>
<td>Jeff Burgess</td>
<td>Associate Professor, Division Director</td>
<td>M.D., M.P.H.</td>
<td>CPH 575</td>
</tr>
<tr>
<td>Mary Kay O’Rourke</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
<td>CPH 575</td>
</tr>
<tr>
<td>Chiu-Hsieh (Paul) Hsu</td>
<td>Assistant Professor</td>
<td>Ph.D.</td>
<td>CPH 576A</td>
</tr>
<tr>
<td>James Ranger-Moore</td>
<td>Associate Professor, Division Director</td>
<td>Ph.D.</td>
<td>CPH 576A</td>
</tr>
<tr>
<td>Kathryn Coe</td>
<td>Assistant Professor</td>
<td>Ph.D.</td>
<td>CPH 577</td>
</tr>
<tr>
<td>Norma Gray</td>
<td>Assistant Professor</td>
<td>Ph.D.</td>
<td>CPH 577</td>
</tr>
<tr>
<td>Lisa Staten</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
<td>CPH 577</td>
</tr>
</tbody>
</table>

- Describe additional faculty needed for the first three years of the certificate.

No additional faculty will be required for the first year of this certificate program. Depending on enrollment, one additional faculty member may be needed to teach additional sections of the five certificate courses during the second or third year. These funds would be recovered from tuition.
• Give the present numbers of FTE students and FTE faculty in the department or unit in which the certificate is offered.

The graduate certificate is comprised of core curriculum from the Master in Public Health program and thus utilizes course content and resources from each of the three Divisions within MEZCOPH.

<table>
<thead>
<tr>
<th>Division</th>
<th>FTE Students</th>
<th>FTE Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidemiology and Biostatistics</td>
<td>68.7</td>
<td>14.73</td>
</tr>
<tr>
<td>Community, Environment, and Policy</td>
<td>45.2</td>
<td>10.41</td>
</tr>
<tr>
<td>Health Promotion Sciences</td>
<td>42.0</td>
<td>12.85</td>
</tr>
<tr>
<td>TOTAL</td>
<td>155.9</td>
<td>37.99</td>
</tr>
</tbody>
</table>

• Give the proposed numbers of FTE students and FTE faculty for the next three years in the department or unit in which the certificate is offered.

The numbers below are FTE students and faculty for the entire MEZCOPH. The increases shown reflect implementation of a Graduate Certificate in Public Health in addition to implementation of a Ph.D. in Biostatistics and a Dr.P.H. in fall 2007.

<table>
<thead>
<tr>
<th>Year</th>
<th>FTE Students w/o Cert</th>
<th>FTE Certificate Students</th>
<th>FTE Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-2008</td>
<td>184</td>
<td>25</td>
<td>38.99</td>
</tr>
<tr>
<td>2008-2009</td>
<td>200</td>
<td>30</td>
<td>41.99</td>
</tr>
<tr>
<td>2009-2010</td>
<td>216</td>
<td>30</td>
<td>44.00</td>
</tr>
</tbody>
</table>
• Provide a copy of the current department budget and note any impact the approval of the certificate could have on department resources.

This distance-learning certificate program is being developed to provide working professionals with a flexible and convenient option for advancing their public health training. The certificate program will be administered through UA Continuing Education and Academic Outreach (CEAO). The certificate program will not have an impact on the MEZCOPH budget as the five courses are already offered throughout the year as part of the MPH program.

### Certificate Budget

<table>
<thead>
<tr>
<th>Student Expense</th>
<th># Units</th>
<th>per Semester</th>
<th>per Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition ($276 per unit up to 6 units)</td>
<td>3</td>
<td>828.00</td>
<td>$ 4,140</td>
</tr>
<tr>
<td>CEAO Registration</td>
<td>3</td>
<td>25.00</td>
<td>$ 125</td>
</tr>
<tr>
<td>Technology Fee</td>
<td>3</td>
<td>32.50</td>
<td>$ 163</td>
</tr>
<tr>
<td>Arizona Trust Fund Fee</td>
<td>3</td>
<td>12.00</td>
<td>$ 60</td>
</tr>
<tr>
<td>Web-based Technology Fee</td>
<td>3</td>
<td>100.00</td>
<td>$ 500</td>
</tr>
<tr>
<td>MPH Program Fee</td>
<td>3</td>
<td>14.50</td>
<td>$ 73</td>
</tr>
<tr>
<td>Non-UA Student Course Fee</td>
<td>3</td>
<td>100.00</td>
<td>$ 500</td>
</tr>
<tr>
<td><strong>Total Certificate Cost</strong></td>
<td>3</td>
<td>1,112.00</td>
<td>$ 5,560</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEZCOPH Expense</th>
<th># Units</th>
<th>per Course*</th>
<th>Certificate Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course set-up fee</td>
<td>15</td>
<td>200.00</td>
<td>$ 1,000</td>
</tr>
<tr>
<td>Faculty</td>
<td>15</td>
<td></td>
<td>$ 48,918</td>
</tr>
<tr>
<td>General Operations</td>
<td>15</td>
<td></td>
<td>$ 3,750</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>$ 53,668</td>
</tr>
</tbody>
</table>

* 30 students per course

<table>
<thead>
<tr>
<th>MEZCOPH Revenue</th>
<th># Units</th>
<th>per Course</th>
<th>per Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition (70%)</td>
<td>15</td>
<td>579.60</td>
<td>$ 2,898</td>
</tr>
<tr>
<td>Program Fee</td>
<td>15</td>
<td></td>
<td>$ 500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
<td></td>
<td>$ 3,398</td>
</tr>
</tbody>
</table>

**Total for 25 Students** $ 84,950

**Note:** Cost per certificate is based on the assumption that students will be enrolled part-time and will take only one class per semester.