A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

Add a residency requirement.

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

Engineering

College of Engineering and Mines
907-474-7241
www.uaf.edu/cem/

Ph.D. Degree

Minimum Requirements for Degree: 36 credits

Engineers use knowledge of the mathematical and natural sciences to develop economical uses of materials and forces of nature for human benefit. The professional practice of engineering requires sophisticated skills, use of judgment and exercise of discretion. The basic education necessary for the professional practice of engineering is provided by the engineering bachelor and master’s degrees. Doctoral-level education requires independent research that generates fundamental advances in technology and discovers new knowledge for the benefit of society. Engineering Ph.D. degrees provide leadership in scientific research, academia and industrial research and development. The Ph.D. degree in engineering draws on the combined strength of the College of Engineering and Mines and offers opportunities for engineers at other UA campuses to participate.

Graduate Program — Ph.D. Degree

Concentrations: Arctic, Civil, Computer, Electrical, Engineering Management, Environmental, Geological, Mechanical, Mining and Petroleum

1. Complete the following admissions requirements:
   
a. Complete either a B.S. or M.S. degree in engineering.
b. Complete a master's degree in engineering or a closely related field.

c. Submit GRE scores.

2. Complete the general university requirements.

3. Complete the Ph.D. degree requirements.

4. As part of the Ph.D. degree requirements, complete the following:
   a. Complete at least 18 credits of course work beyond the M.S. degree.
   b. Complete and pass a written and oral comprehensive examination.
   c. Complete and submit a written thesis proposal for approval.
   d. Complete a research program as arranged with the graduate advisory committee.
   e. Complete a thesis that is a substantial contribution to the body of knowledge in engineering and pass an oral defense of thesis.

5. Minimum credits required—36 credits

C. PROPOSED REQUIREMENTS AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES:
(Underline new wording strike-through old wording and use complete catalog format)

Engineering

College of Engineering and Mines
907-474-7241
www.uaf.edu/cem/

Ph.D. Degree

Minimum Requirements for Degree: 36 credits

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Concentrations: Arctic, Civil, Computer, Electrical, Engineering Management, Environmental, Geological, Mechanical, Mining and Petroleum
1. Complete the following admissions requirements:
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   b. Complete a master's degree in engineering or a closely related field.
   c. Submit GRE scores.

2. Complete the general university requirements.

3. Complete the Ph.D. degree requirements.

4. As part of the Ph.D. degree requirements, complete the following:
   a. Complete at least 18 credits of course work beyond the M.S. degree.
   b. Complete at least three full-time semesters of residency, which may include a summer semester. Residency is defined as living in the Fairbanks area, working with the student’s graduate advisor and graduate committee, while taking courses at UAF.
   c. Complete and pass a written and oral comprehensive examination.
   d. Complete and submit a written thesis proposal for approval.
   e. Complete a research program as arranged with the graduate advisory committee.
   f. Complete a thesis that is a substantial contribution to the body of knowledge in engineering and pass an oral defense of thesis.

5. Minimum credits required—36 credits

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D. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

None. A survey of all Engineering Ph.D. students to date found that all have met this proposed requirement.

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E. IMPACTS ON PROGRAMS/DEPTS:

What programs/departments will be affected by this proposed action? Include information on the Programs/Departments contacted (e.g., email, memo)

All CEM programs/departments will now be required to adhere to this requirement, but all have voted for a residency requirement in the Engineering Ph.D. degree program.
F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

We track the graduates and survey them to assess their jobs and their experiences at UAF.

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you drop a course, is it because the material is covered elsewhere? Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the program is not compromised as a result.

When the Ph.D. degree in Engineering was created, there was a 3-semester residency requirement by the UAF Graduate School. That residency requirement was removed. This issue was discussed by the CEM faculty, a vote was taken, and a 3-semester residency was the choice of the CEM faculty.

APPROVALS:

[Signatures and dates for various programs and deans are listed with their respective dates.]

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

[Signature, Chair, UAF Faculty Senate Curriculum Review Committee]