

PART II	DEPARTMENT OF HUMAN RESOURCES DEVELOPMENT	7.001
	STATE OF HAWAII	7.002
.....		7.003
		7.004
	Minimum Qualification Specifications	7.005
	for the Classes:	7.006
<u>ENGINEER I, II, III, IV, V & VI</u>		

Basic Education/Experience Requirements:

All applicants must meet one of the requirements specified in A, B or C below:

- A. Graduation from a school of engineering in an accredited college or university.

Note: For some positions, graduation from an accredited college or university with a degree in physics, mathematics or chemistry may be accepted as qualifying, provided the applicant has had at least 15 credits in engineering sciences, common to all engineering disciplines; e.g., thermodynamics, statics, electrical science, applied mechanics, engineering drawing, strength of materials, etc.

- B. Administrative, professional or technical experience involving the application and knowledge of the fundamental physical and mathematical sciences underlying professional engineering including physics, chemistry, mathematics through integral calculus and engineering sciences such as statics, dynamics, strength of material, thermodynamics, fluid mechanics and engineering drawing and other specialized courses to one of the branches of engineering. Such experience must be substantially equivalent to the knowledge and understanding gained by completion of a college training leading to a bachelor's degree in engineering; or
- C. A combination of college training in engineering and experience mentioned in B above substantively equivalent to completion of a college training leading to a bachelor's degree in engineering.

Experience Requirements:

Except for the substitutions provided for in this specification, applicants must have had progressively responsible experience of the kind and quality described below, and in the amounts shown in the following table, or any equivalent combination of training and experience:

Class Title	Engineering Experience (years)	Supvry or Staff Advisory Exp (years)	Total Exp (Yrs)
Engineer I	0	0	0
Engineer II	1	0	1
Engineer III	2	0	2
Engineer IV	3*	0	3
Engineer V	4*	**	4
Engineer VI	4*	1	5

Engineering Experience: Progressively responsible professional engineering which required the knowledge and application of the basic physical and mathematical sciences and the engineering sciences to the solution of theoretical or practical engineering problems.

Examples of qualifying professional engineering experience are as follows:

- A. The development and design of machines, equipment, structures or power, water, communication or transportation systems and facilities or the preparation of development, design or construction specifications for such materials or systems, involving the use of theoretical and applied mechanics, a knowledge of the properties of materials and other appropriate engineering and scientific knowledge and skills.
- B. Original research in one or more branches of engineering, developing engineering applications of physical and other scientific principles.
- C. Administration of engineering programs and projects, involving analysis of requirements for equipment and materials, study of technical feasibility and cost, selection of approach and direction of problem solution.
- D. Interpretation of systems operational requirements in terms of physical facilities and the design and development of standard procedures for efficient operational use or maintenance of such facilities.
- E. Evaluation, investigation, or survey of engineering projects, structures, devices or services.
- F. Such activities as production, construction, regulation and test, when they involve engineering considerations and decisions as important and controlling elements.

Note: In some situations, experience which is not of itself clearly professional engineering experience may be accepted in lieu of "professional" engineering experience. In such cases, the experience must have been preceded by prior "professional" engineering experience and must contribute directly and significantly to the candidate's professional engineering competence. For example, an engineer may be assigned to a management or a computer systems analysis position in preparation for assumption of higher level responsibilities in engineering administration.

*For the Engineer IV, V and VI levels, at least one year of the required engineering experience must have been experience comparable to the next lower level.

In any case, the required amount of experience for any level will not in itself be accepted as proof of qualification. The applicant's record of experience and education must show that he has the ability to perform efficiently the duties of the position.

Supervisory or Staff Advisory Experience:

- A. Supervisory Experience: Professional engineering experience which included training subordinates, coordinating and assigning workloads, evaluating performance, assisting in difficult and problem areas and maintaining high standards of work and timely accomplishment of work objectives.
- ** For the Engineer V level, supervisory potential rather than actual supervisory experience may be accepted. Supervisory potential or the ability to perform supervisory duties will be considered to have been met when there is strong evidence of the necessary supervisory aptitudes as demonstrated by outstanding performance on special assignments of understudy supervisory activities, self-development programs such as further education or training in supervision, or affirmative appraisals by supervisors as to leadership qualities; and/or
- B. Staff Advisory Experience: Professional engineering experience as technical expert in a specialized area or program function performing staff advisory, consultative and/or reviewing the work of a staff of specialist assigned to such activities as long-range planning, research and/or development of specific projects, programs, etc.

Substitutions Allowed:

1. A master's degree in a pertinent engineering field from a school of engineering in an accredited college or university may be substituted for one year of Engineering Experience.
2. Excess Supervisory or Staff Advisory Experience of the type and quality described above may be substituted for Engineering Experience on a year-for-year basis.

Quality of Experience:

Possession of the required number of years of experience will not in itself be accepted as proof of qualification for a position. The applicant's overall experience must have been of such scope and level of responsibility as to conclusively demonstrate that he/she has the ability to perform the duties of the position for which he/she is being considered.

License Required:

For the Engineer IV and higher levels, applicants must possess a valid license as a professional engineer in the State of Hawaii.

Selective Certification:

Specialized knowledge, skills and abilities may be required to perform the duties of some positions. For such positions, Selective Certification Requirements may be established and certification may be restricted to eligibles who possess the pertinent experience and/or training required to perform the duties of the position.

Agencies requesting selective certification must show the connection between the kind of training and/or experience on which they wish to base selective certification and the duties of the position to be filled.

Tests:

Applicants may be required to qualify on an appropriate examination.

Physical and Medical Requirements:

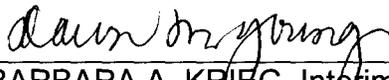
Applicants must be able to perform the essential duties and responsibilities of the position effectively and safely, with or without reasonable accommodation.

PART II
ENGINEER I, II, III, IV, V, & VI
7.001, 7.002, 7.003, 7.004, 7.005, 7.006

Page 5

This is an amendment to the minimum qualification specifications for the classes
ENGINEER I, II, III, IV, V, and VI, approved on September 25, 2007

DATE APPROVED: 1/17/2012


for BARBARA A. KRIZG, Interim Director
Department of Human Resources Development