

175. In general, however, the Committee considers that two schools of engineering will be required. Even on the basis of present known needs the number of required student-places is greater than that which could be efficiently provided in a single school. When possible future expansion and specialization are taken into account, the case for two schools becomes even stronger.

176. The Committee also considered, but rejected, the possibility of consolidating certain branches of engineering in one or other of the schools. At first sight it seems illogical that instruction in mechanical engineering, by far the smallest of the three main divisions of engineering, should be divided. Indeed, it happens to be the only branch in which complete duplication of teaching has hitherto been provided.

177. The three major branches of engineering—civil, electrical, and mechanical—are by no means self-contained. Some instruction in mechanical engineering, for example, is necessary for all three branches, and any theoretical advantage that might appear to be obtainable from water-tight division of courses is likely to prove illusory in practice. In the training of engineering students it is important that final specialization should be delayed as long as it is reasonably possible. The professional engineer who knows something at first hand of the work carried out by his colleagues in other branches of the profession will, particularly in New Zealand conditions, be a more useful man. The Committee considers, therefore, that up to the standard of the B.E. degree it would be false economy to plan for concentration of any of the major branches in a single school. For B.E. (Honours) and for post-graduate courses where highly specialized teaching and equipment may be required, there should be reasonable concentration of resources, and the schools should avoid duplication.

RECOMMENDATION—

That the equipment of the Auckland University College School of Engineering be improved and that further equipment be provided to permit the extension of the courses in civil and electrical engineering to the final year of the B.E. course.

178. Assuming, then, that there are to be two schools of engineering, it remains to show how the student-places should be allotted. To arrive at a hypothetical distribution of student-places among the various branches of engineering the Committee has obtained a ratio by combining (a) the annual wastage at 4 per cent., (b) possible annual filling of vacancies, and (c) possible additional engineers to provide for new posts. The results obtained are set out in Table H which, for convenience, also includes the present enrolments.

Table H—Allotment of Student-places (Estimates)

	Present Enrolments.			Estimated on Basis of Wastage, Vacancies, and New Posts.		
	C.	A.	Total.	C.	A.	Total.
First professional year	79	44	123	80	40	120
Second and subsequent years—						
Civil	98	24	122	43	21	64
Electrical	71	6	77	55	28	83
Mechanical	27	24	51	16	8	24
Other	8	..	8	6	3	9
Non-degree	73	9	82	33	17	50
	356	107	463	233	117	350