1-1-1967

Forestry Curriculum- 1967 Version

Fredrick S. Hopkins Jr.
Iowa State University

Follow this and additional works at: https://lib.dr.iastate.edu/amesforester

Part of the Forest Sciences Commons

Recommended Citation
Available at: https://lib.dr.iastate.edu/amesforester/vol54/iss1/9

This Article is brought to you for free and open access by the Journals at Iowa State University Digital Repository. It has been accepted for inclusion in Ames Forester by an authorized editor of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
Forestry Curriculum—1967 Version
By FREDRICK S. HOPKINS, JR.

Among the several major changes being effected in Forestry at Iowa State in 1967 is a significant revision of the undergraduate Forestry Curriculum. This article discusses the basis for and the process of curriculum planning. Changes being introduced are described in terms of adjustments in the pattern and shifts in emphasis which they reflect. For a more explicit description of the revised curriculum, the reader is referred to the current edition of the General Catalog of Iowa State University.

At the outset, it should be emphasized that a forestry curriculum and forestry education are not the same thing. The former is subordinate to the latter. A curriculum might be described as a carefully planned pattern of formal courses designed to facilitate the accomplishment of prescribed educational objectives. Forestry education, on the other hand, is the grand total of all knowledge, understanding and insight gained through experience, study and thought throughout the course of one's professional life. In other words, the curriculum reflects only a part of the education one gains as an undergraduate and the undergraduate program itself is merely an initiation of forestry education. Each course might be thought of as a catapult which serves to get the student airborne. But beyond the initial impetus which the course hopefully provides, it is up to the individual to maintain flying speed in a particular subject matter area and to complete his mission successfully. One of the major objectives of a forestry curriculum, in fact, is to enable the student to continue his education effectively after the formal program has been completed.

Additional perspective on the Forestry Curriculum might be provided by considering it in the light of successive levels of concern. These might be ordered as follows:

Professional and Personal Context
The Forestry Profession
Forestry Education
Forestry Curriculum

As indicated, the curriculum serves primarily to enhance the effectiveness of formal education in forestry. Thus, the merit of the curriculum must be evaluated with reference to the objectives of forestry education. These, in turn, are to help provide the basic concepts, techniques and reasoning ability essential to competence in the profession of Forestry. Finally, it must be recognized that 1.) forestry does not exist in isolation from the rest of the world, and 2.) the practice of one's profession in whatever capacity is only one aspect of the life he will lead.

While the foregoing suggests the scope of concern in planning and revising the Forestry Curriculum at Iowa State, it should not be inferred that the curriculum pretends to provide the basis for a "universal" education. An attempt should be made, however, to blend the scientific, the professional, the social and the cultural to best meet the needs of the student with respect to both his profession and the environment within which he will live. In his inaugural address, Dr. W. Robert Parks, President of Iowa State, dealt with the dichotomy of science on one hand and culture on the other. His thesis was that higher education must strive to bring these two aspects of the contemporary world more closely together. Many of the observations made in a much broader context are pertinent to forestry education. While Dr. Parks did not elaborate on a strategy for achieving such integration, it seems evident that curriculum manipulation will play only a minor role. Of much greater significance are the approaches and attitudes adopted by members of the faculty, whatever their area of specialization. The increment in education gained through a course in the most intensively scientific subject can be extremely liberal in its impact on the student.

Critics of the Forestry Curriculum (and every graduate automatically joins the ranks of critics) tend invariably to reflect their current status and responsibility. The administrator will often point to the need for a strengthened background in communications, public relations, personnel management and so forth. The scientist may claim that the curriculum is deficient in mathematics and basic sciences. The student, on the other hand, often feels that courses are too basic, too theoretical, and only vaguely related to the job he will have to do when he graduates. Rarely, however, is criticism leveled at the technical or professional component of the curriculum.

Two points are suggested here with regard to curriculum planning. The first is that comment from alumni and other professionals almost invariably propose the addition of something worthwhile to the curriculum. However, given the restraint of a four-year program and a corresponding limitation on the number of credits that can reasonably be earned, each course added means that another must be deleted. The relative merit of a proposed new course must be weighed against that of the one it would replace. Would a course in computer science contribute more to the education of all forestry students than a quarter of organic chemistry? The second point is that the curriculum must, insofar as possible, be designed to cover the whole spectrum of forestry. It is impossible to predict what responsibilities a graduate will have
or where he will be situated at each stage of his career. Thus, his specific educational requirements cannot be determined. Therefore, the curriculum is necessarily "general" with reference to the profession. As a student, one may recognize certain aspects of forestry which seem to be especially appealing. The curriculum can provide the opportunity to complement a more general forestry education with courses appropriate to particular interests aroused in the student.

To what stage or period in a man's career is the Forestry Curriculum directed? Obviously, the target is not the position one will occupy upon entering the profession. If it were, much more emphasis on technical skills would be required. At this stage in his career, the four-year forestry graduate might even feel that he has been shortchanged. He may encounter graduates of one-or two-year technical programs who are more competent than he in the performance of many of his duties. This phase, however, is more properly regarded as a period of internship and is not the objective of professional education in forestry. The curriculum is appreciably more productive if it aims generally at a more advanced point in the forester's career. The second decade is perhaps the best approximation of the period toward which the curriculum is directed. At this stage, the graduate is assuming major managerial or administrative responsibilities. His function lies primarily in planning and directing rather than in doing the tasks involved. At this stage, he needs the depth and perspective that his undergraduate education can provide plus all that experience and continued education can add.

Another question in curriculum planning occurs with respect to its structure. What are the areas of knowledge and understanding that would be essential to any person planning to enter the profession of Forestry? This is the basis upon which a core of courses required of all students is established. The core consists of both professional or applied subjects and more basic courses which serve as a foundation for more specialized studies and as part of one's general education. The implication in this component of the curriculum is that one would not be qualified as a professional forester without the subject-matter represented by the courses included in this core. At a second level are elements in the curriculum within which the student has some degree of latitude in the selection of courses or groups of courses. Choice is generally tied to some more specific professional objective identified by the student. Provision is made for such selection by the establishment of group requirements, options, or minors within the structure of the curriculum. The third component consists of elective credit. Here the student has a great deal of latitude in the selection of courses. Elective courses are generally selected on the basis of a strong personal interest in the subject or to complement the student's professional program in areas not otherwise provided for in the curriculum.

It should be evident that curriculum planning involves considerably more than simply juggling courses around like building blocks. It is very much concerned with the content of individual courses as well as with the interaction between courses. The arrangement and sequence of courses has a substantial bearing upon the effectiveness of a curriculum.

Why revise the curriculum? If a program serves its purposes well, why not leave it alone? Certainly, in the case of the Forestry Curriculum, the cost and effort entailed has been and will continue to be high. The answer lies in the fact that forestry and the whole context of forestry are dynamic. The technology of forestry, human needs and relative values are changing constantly. Education must continually adjust to such changes if it is to remain effective. Periodic revision of the Forestry Curriculum is imperative. The necessity is amplified by the fact that undergraduate education is geared to the second decade after the student graduates. It becomes necessary, not only to keep pace with the current development of the profession, but also, where possible, to anticipate changes or trends fifteen to twenty years in advance.

Mention should be made of the process whereby curriculum revision is accomplished. One of the standing faculty committees in the Forestry Department is the Curriculum Committee. This group functions continuously in an effort to identify problems related to the curriculum and to develop and propose measures which would increase the effectiveness of the curriculum. This is based not only on personal observation and judgement, but also on comments received from students and close contact and communication with the profession outside the University. Several critiques of forestry education, or certain aspects of forestry education, have been published recently. These have been especially provocative.

After much discussion and deliberation, recommendations are formulated and submitted to the Forestry faculty. Proposals are debated by the entire faculty, sometimes at considerable length and with great vigor. With a broader range of views brought to bear at this level, the recommendations of the curriculum committee may be modified appreciably. The Department's proposal is then presented to the College of Agriculture Curriculum Committee in the form of proposed catalog changes. This includes, of course, not only adjustments in the structure and course content of the curriculum, but also changes within courses and recommendations for new courses or deletions. After review by the College Curriculum Committee, the proposal is submitted to the University Committee and finally to the Board of Regents for approval.

(Continued on page 39)
The committee which initiated the revision to go into effect this year consisted of Dr. Dwight Bensend, Dr. Raymond Finn, Dr. Kenneth Ware and the author.

Turning to the revised Forestry Curriculum, the major change introduced is the addition of a system of minors to the former curriculum—option structure. This change has the effect of increasing the proportion of the curriculum in which the student has some degree of latitude. To a lesser extent, the same effect is gained by the inclusion in the core of a group requirement providing 20 credits of courses to be selected from a specified list of courses primarily in the mathematics and physical science areas. As these changes imply, the number of credits in courses explicitly required is appreciably reduced—by approximately 20%. This reduction in explicit course requirements has been made largely in forestry or forestry-related subjects. At the same time, it has been necessary to reduce the number of credits available to the student as unrestricted electives. For the most part, however, the minors would be appropriately regarded as elective packages.

The revised curriculum will include a modest increase in the social science and humanities requirements. In the Forest Management Option, selection of at least two courses dealing with forest resources other than timber is required. Substantial changes in the organization and content of courses in the Forest Products area have been effected. Courses in the Forest Economics—Management—Policy area have been reorganized. Material formerly covered in five courses is now to be treated in three courses of five credits each. Part of the work in Forest Mensuration has been shifted from the sophomore to the senior year when it will be offered concurrently with Forest Management.

In addition to making a choice between the Forest Management and Forest Products Options in the last quarter of the sophomore year, the student will choose one minor to complement the option. The minor is not intended to qualify the student as a specialist in the area designated. Rather, it provides an opportunity for the student to develop, through an appropriate combination of courses, an area in which he is especially interested. It is hoped, too, that the minors will provoke thought with regard to the various aspects of forestry thus helping the student to identify long range objectives.

In the Forest Management Option, the student has a choice among ten minors consisting of 20 credits each. The list is as follows:
- Biological Science
- Managerial Science
- Resource Education
- Wildlife Biology
- Forest Recreation
- Forest Range Management
- Timber Products
- Multiple Purpose Forestry
- Forestry Business
- Urban Forestry

The first two of these are designed primarily for students planning to undertake graduate programs, and would serve to enhance the effectiveness of their undergraduate programs with this objective in view. The general character of the remaining minors is indicated by their titles.

Three minors of 35 credits each have been developed to complement the Forest Products Option:
- Wood Science and Technology
- Timber Products Conversion
- Timber Products Business

These minors will aid the Forest Products student in reaching his particular objectives within the Forest Products area.

While the revised curriculum will undoubtedly present some problems with respect to administration and counselling, it is anticipated that it will give the student somewhat greater flexibility and an opportunity to pursue special interests.

As a final word, it should be added that the Forestry Curriculum at Iowa State is continuously under scrutiny. It is impossible to strengthen the curriculum without close communication with alumni and other professional foresters. Comment and criticism concerning the curriculum is always welcomed and given serious consideration as periodic opportunities for review arise.

This island was formed over ages of geologic time by the action of rock-throwing students.