on February 16, 1961, and assumed command for about two and one-half years. In 1963 Captain John E. Coste arrived at Iowa State and became the only PNS to serve a full three year period during the 1960's. In 1966 Colonel Russell R. Riley replaced Captain Coste and was scheduled to serve as the PNS until his 1969 retirement. However, a change in the Marine promotion system allowed the Colonel to be considered for the rank of general twice in the same year and he was mandatorily retired with twenty-nine years of service rather than the normal thirty years of active duty. Shortly after Colonel Riley's retirement he completed his M.S. degree in Educational Administration at Iowa State. The Colonel joined a growing list of military officers who completed advanced degrees at the University.

In 1968 Captain J. H. McGhee became the eleventh PNS at Iowa State since the NROTC unit was formed in 1946. Captain McGhee was a PNS who had many "first's" associated with his tour at the University. He was the first PNS to have a M.A. degree when he was appointed as PNS. All other PNS's had held Bachelor degrees. Captain McGhee was also the first PNS who had completed a previous NROTC tour as he had served as an Assistant PNS at the University of Utah from 1951-53. The Captain had other teaching experience since he had served on the staff of the Naval War College.\(^1\) Captain McGhee was also

\(^{1}\)Iowa State University, Special Collections, Naval Science Records, Personnel File.
the first military officer assigned to Iowa State who taught a course for the University outside of the Military Department. Captain McGhee taught an honors seminary. It must be noted that Captain McGhee served a full three year tour and his tenure carried over to 1971.

Other than the high turnover of PNS's there was little change in the NROTC Officer Education program at Iowa State from 1960 to 1970. The changes that did take place were in the curriculum and involved moving the weapons course from the sophomore year to the senior year. The sophomore year was then devoted to a seapower seminar and the senior students had a more theoretical weapons course than had been taught previously. The freshman course remained the same throughout the 1960's. The junior year involved teaching two of the three following subjects at the same time: navigation, naval engineering, or naval operations. Before the sophomore course content was changed to the seapower seminar, the sophomores were allowed to substitute psychology 101 for the naval science 212 lecture course. When the seapower seminar was introduced the psychology course substitution was dropped and the total credit hours for the sophomore naval science course was reduced from nine to four hours. Consequently the overall naval science course credit was reduced from thirty-six hours to
thirty-one hours. The NROTC curriculum remained the most comprehensive of any of the three Officer Education Departments and still required several pre-requisites in other University courses such as computer science, physics and mathematics.

The NROTC unit at Iowa State was involved with many activities during the 1960's. Some of the activities included; annual spring review, Navy ball, midshipmen basketball team, drill team, band, rifle team, visits to Navy and Marine installations, and the summer cruises. These summer cruises continued to attract a substantial amount of attention. One midshipmen served his tour on a submarine that was on sixty day patrol. It was reported that another midshipmen even logged a mission over North Vietnam during the time he completed his summer cruise in the Gulf of Tonkin.  

The midshipmen stopped the publication of the Spendrift and started publishing The Log (in 1963) which was an annual that described each year's activities in pictures. The Navy ball, a tradition since the 1940's, was dropped after the 1970 dance. The Navy was the only unit that had continued an individual ball since the early 1960's. Another change made

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2Iowa State University, NROTC Scrapbook, 1960-70.
by the Navy in 1970 was the removal of the clause in the
Regular contract that required the scholarship cadet to remain
unmarried during his NROTC program. Dean Chalmer Roy and Dr.
Arthur Gowan, who were usually the representatives of the
University president at the meetings of the Association of
NROTC Colleges and Universities, had long argued that the
marriage clause should be removed.

During the 1960 to 1970 period the Iowa State NROTC unit
commissioned 324 Navy ensigns and Marine Corps officers and
approximately sixty-five per cent of these graduates were
Regular officers. Therefore it can be seen that the mission
of the Navy ROTC unit at Iowa State was being accomplished.
The Navy Officers Education program was producing immediately
employable officer for the Navy.

Air Force ROTC at Iowa State University 1960-70

The Air Force ROTC unit at Iowa State was commanded by
two colonels and two lt. colonels during the 1960's. Colonel
Elwyn F. Quinn's tenure had started in 1958 and carried over
until 1962. Lt. Colonel Joseph F. Sage reported to Iowa State
in 1962 and was the first Professor of Air Science to have a
Master's degree.\(^1\) Colonel Sage was confronted immediately with

\(^1\)Iowa State University, Special Collections, Air Science
Records, Personnel File; Colonel Sage actually had an LLB
degree that is rated as equivalent to a M.S. degree in the Air
Force Register.
the drastic drop in enrollment since his first year was also the first year for voluntary basic ROTC at Iowa State. The Colonel encountered several problems that took almost two years to overcome. Consequently, he became a prime mover in the coordinated effort of the three Military Departments to keep the ROTC programs viable at Iowa State. In 1964 when the new Air Force ROTC curriculum was introduced, it included a substantial amount of course content about aerospace development. At this same time the Air Science Department's name was changed to Aerospace Department at all schools who had AFROTC detachments. However, Iowa State also had a Aerospace Engineering Department and this created problems in delivery of mail and course listings in the University General Catalog. Thus the AFROTC Department became known as the Air Force Aerospace Studies (AFAS) Department for mailing and Catalog listing at Iowa State. The head of the AFAS was still known as the PAS (Professor of Aerospace Studies). It took the Aerospace Engineering Department a few years before they would let the AFAS Department forget the name of Air Science Department. Whenever any Air Force mail was erroneously sent to the Aerospace Department, it would be re-routed to the armory with the words "Air Science" in big bold letters across the front.

Colonel Sage worked behind the scenes in many capacities to place the Air Force and its Officer Education program before the campus community so more people could become
acquainted with the AFROTC program. Colonel and Mrs. Sage were avid entertainers and became friends with many university and Ames people as they took part in the social affairs of the community, University, and the activities of Arnold Air Society and Angel Flight. By the time Colonel Sage had completed his four year tour, the Air Force Officers Education program had made the transition from compulsory to voluntary basic ROTC and the production of Air Force officers was on the increase at Iowa State.

In 1966 Lt. Colonel Paul W. VonWiedenfield, who had served two years as an Associate Professor and second in command to Lt. Colonel Sage, became the ninth person to serve as the head of the AFROTC department. During VonWiedenfield's four years of duty at Iowa State, he completed his M.S. degree in Education and conducted a study on "Prediction of Academic Achievement using the Air Force Officer Qualifying Test at Iowa State University." Lt. Colonel VonWiedenfield's two years as PAS at Iowa State saw the number of Air Force officers commissioned continue to increase and the overall AFROTC program became a stabilized department in the University. In 1968

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1 Most of the information on the Air Force ROTC at Iowa State University is based on first hand observation since this writer was an Assistant Professor of Aerospace Studies at Iowa State from 1964 to 1968 and served as a graduate student from 1969 to 1972.
Colonel Ronald L. Brumbaugh became the tenth person to serve as the PAS since the AFROTC unit was started as an air unit in 1946.

In 1960 the active duty commitment for non-flying Air Force officers was changed to four years and flying officers were required to serve for five years. Consequently the Air Force ROTC program was aimed at producing career officers. In anticipation of the passing of the ROTC Vitalization Act, the Air Force ROTC headquarters formed an Officer Education Planning Group in 1961 which was made up of civilian and military educators who developed a new officer education curriculum. After pilot testing of the curriculum, it was implemented in 1964 to 1965. The new curriculum had two major phases, the general military course (GMC) and the professional officer course (POC). Even the name was changed from air science to aerospace studies. The basic course taught world military systems and the POC started out in the junior year as a survey course that dealt with the nature of war, development of air power, mission and organization of the Defense Department, Air Force concepts, doctrine, and employment. Then considerable time was devoted to aeronautics and space operations. The second year of the POC included a study of professionalism, professional responsibilities, the military justice system, leadership theory, functions and practices, management
principles and functions, and problem solving.\footnote{1} The new curriculum brought a different approach to the presentation of material. This new approach, called "Dialogue" was basically a seminar activity in which the cadets were actively involved in making presentations and conducting guided discussions. Other techniques include problem solving, case studies and role playing. The emphasis was placed on "how to think" rather than "what to think". Educational specialists were organized at AFROTC headquarters to develop new materials, textbooks, audio-visual aids and to conduct educational workshops to improve the quality of instruction. A continuous evaluation of the curriculum resulted in some changes in the GMC content to make it a little more motivational. However, the POC content has stood the test of time and has received favorable support from Air Force ROTC instructors as well as the university community. The new Officer Education curriculum was well received at Iowa State.

The 1960 to 1970 period saw the Iowa State AFROTC unit gaining a new organization when Angel Flight was formed in 1962. Angel Flight was a national organization that was formed at the University of Omaha in February, 1952. The local unit

\footnote{1"History of Air Force", Twentieth Anniversary Command (Edition) pp. 10-13; Iowa State University General Catalog 1965-67, p. 353. The new course descriptions are included as Appendix Q.}
at Iowa State was sponsored by O'Neil Arnold Air Society. The objectives of Angel Flight were to promote interest in the Air Force, distribute information concerning military services, and to serve as official hostess for Arnold Air Society.\(^1\) Angel Flight expanded its objectives to include serving as hostesses for Iowa State University. The co-eds in Angel Flight certainly did attract a substantial amount of favorable publicity for the AFROTC unit and the Angels have served the University well. They were awarded the service "I" award only five years after the organization was formed. The service "I" award is presented annually to the organization that through its efforts and service projects does the most to promote the ideals of service at Iowa State University.

Air Force ROTC became even more closely associated with college co-eds when it was announced in 1969 that women at four institutions would be enrolled in the AFROTC two year program and compete for commissions. In May, 1970, the Air Force authorized women to be included in the four-year program and opened the program up to any school that offered Air Force ROTC. In the fall of 1970 Iowa State joined ninety-four other

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\(^1\)The Daily, January 19, 1962, April 14, 1966; Iowa State University, Special Collections, Student Organizations.
institutions in offering co-ed AFROTC. Consequently, two young ladies enrolled at Iowa State in freshman AFROTC during the fall of 1970. This was the first time women had enrolled in Iowa State ROTC but it was not the first time a woman's commissioning program had been sponsored by the Air Force. In 1956 a female AFROTC program had been conducted for the WAF (Womens Air Force) at ten schools. However, the first WAF ROTC program was short-lived. The only limitations on the women in the present day AFROTC program is that they cannot take the flight instruction program, nor can they be considered for flying training on active duty as a law precludes women in jobs that are subject to combat. The women must serve four years of active duty just like all other non-rated officers.

Another activity that started in the 1960's was the Air Force ROTC Dining-In. This very old tradition probably started back in England and is not exclusively military. General H. H. Arnold started the Dining-In tradition in the Air Force with his famous "wing-dings". At Iowa State the Dining-In started in 1964 as a means of introducing cadets to some of the situations where ceremony, tradition, awards presentations, and good

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1Patricia R. Muncy, "AFROTC Program Expanded for Women," Air Force and Space Digest, October, 1970, pp. 76-77. It is interesting to note that the Army ROTC started a pilot program of women in AROTC in 1971 and the Navy has announced that women will be accepted in the Navy ROTC in 1972.

fellowship play a part in the life of a military organization. At Iowa State the Dining-In served as a means for angels, cadets, civilian and military faculty to socialize and be apprised of the accomplishments of the AFROTC cadet who receive the annual awards.

The mission of AFROTC was changed three times during the 1960's with the emphasis placed on commissioning career officers rather than reserve officers. The current mission of AFROTC is "to commission second lieutenants through a college program in response to Air Force requirements." Iowa State University commissioned 286 Air Force second lieutenants from 1960 through 1970 and that number met the Air Force requirements.

Vietnam War and ROTC at Iowa State University

The effect of the Vietnam war worked both ways on Iowa State's military enrollments. In 1966 there was an increase of enrollment in ROTC and then a decrease in enrollment when the student protest and the backlash of an unpopular war put the military in an unfavorable position. All three ROTC units at Iowa State showed an increase in enrollment during the 1966-67 school year. The Army ROTC total enrollment increased from 213 in 1965 to 311 in 1966 and stabilized above 280 for three years. The Air Force ROTC enrollment expanded from 277 in 1965 to 321 in 1966 and averaged 281 for three years. The Navy
ROTC unit at Iowa State had the most stable enrollment throughout the Vietnam era. An increase of only one NROTC cadet was registered from 1965 to 1966, but then NROTC expanded from 166 to over 180 for two years. All three services then registered a drop of enrollment in 1969.

It is extremely difficult to determine the effect of the Vietnam War on the number of officers commissioned. The number of Air Force officers commissioned had started to increase before the Vietnam conflict escalated, whereas the number of NROTC graduates remained stable throughout the conflict. The Army ROTC graduates had continued to decline until 1966 and then showed an increase except for a one year drop in 1968. It does appear that there was more interest in the advanced course of the three services but the number of officers commissioned did not vary significantly which meant the services were able to be much more selective in the candidates they accepted for the advanced course.

One barometer that could be used to judge the effect of the Vietnam War was the reaction to the Joint Military Review (or Tri-Service Review) that was first conducted on the Iowa State central campus in 1966. The first review was held with no interference at all. In 1967 a few "flower people" joined in and marched by the reviewing stand at the end of the joint review. In 1968 the Tri-Service Review was conducted without
incident even though some sort of a protest was expected by the Military Departments. In 1969 a more active attempt was made to interrupt the review and two persons were arrested. When the time arrived for the 1970 Veishea and the Tri-Service Review, the campus was fairly tense (over the United States incursion into Cambodia) and the Military Departments in consultation with the University administration decided to cancel the review. The Governor awards that had been presented to the outstanding cadet in each of the services since 1966 at the Joint Military Review were presented by the Governor of Iowa in his Des Moines office.\(^1\)

Though there was much protest, antimilitary publicity and some destruction of ROTC facilities across the country in 1970, Iowa State remained relatively quiet. Only two incidents in 1970 that were aimed directly at the Military Departments attracted some attention. On May 5th, about fifty persons staged a sit-in protest in the armory during which time a door on the armory was broken and the Army and Air Force staffs were harrassed. On the following day some students at an all-school rally on central campus allowed themselves to be stampeded into disrupting an ROTC drill session. The interruption was peaceful and the drill session was called off shortly after the students arrived on the drill field. Though these were

\(^{1}\)The Daily, April 27, 1966, May 7, 1969; Des Moines Register, May 7, 1967, p. 4L.
tense times on the campus, Iowa State University remained open and the ROTC units continued to function even though the military did assume a lower profile on campus. The protest at Iowa State was not in any way a request for the removal of ROTC from Iowa State but was an expression of the dissatisfaction of the events of the Vietnam War. The ROTC units just happened to be the most visible part of the military available.

The University administrators voiced their continued support of the ROTC programs at Iowa State. Dr. W. Robert Parks expressed his disappointment that the military drill period had been interrupted and indicated that the academic freedom of the ROTC students had been infringed upon.\(^1\) During the summer of 1970 the State Board of Regents voted unanimously to retain the Reserve Officers Training Programs as a part of the university community.\(^2\) It might also be a surprise to some, but the instruction of military tactics at Iowa State is required by the Code of Iowa, Section 266.2. By the fall of 1970, though the campus atmosphere was uneasy, it appeared that the three ROTC programs at Iowa State were going to remain a viable part of Iowa State University.

\(^1\)News of Iowa State, July-August, 1970, p. 6.
Selection of Faculty in Officer Education at Iowa State

Throughout the history of military training at Iowa State the administration has had an active part in the selection of personnel for the Military Departments. In the early days the College president made the recommendations to the College Board of Trustees. When the ROTC program was formalized after World War I, the selection of the military personnel was made by the Dean of the Industrial Science Division to which the Military Department was assigned. Dean Beyer established a precedent in the early 1920's when he said he refused to accept any officer who did not have a college degree. In later years the selection procedure also included an arrangement where the military officers records were submitted to the University. The Military Department and the Dean of Science and Humanities evaluated the officers' records and the Dean determined whether the prospective staff member was acceptable.

Throughout the years Iowa State University added other requirements that the military faculty had to meet in order to be acceptable at Iowa State. These requirements were finalized and put in written form by the Officer Education Committee on August 1, 1970. After several meetings in which all three Military Departments were consulted, the Officer Education Committee arrived at the new approved criteria. In developing the criteria for selection of faculty in Officer Education the
Officer Education Committee explained that "the Officer Education Departments are a part of the Iowa State University academic program and selection of staff should be in accordance with the procedures followed in the selection of faculty in other departments of the university." Basically the criteria state that an officer with only a Baccalaureate degree will be appointed as an instructor and that his academic records must be acceptable for entrance into the graduate college. The officer who is assigned as an instructor is expected to work towards his master's degree. To be an assistant professor, an officer must have a master's degree and be at least a captain (or lieutenant in the Navy) and a graduate of the first professional school of his service. An associate professor must fulfill the requirements of an assistant professor and hold at least the rank of major (or lieutenant commander) and have special academic and administrative responsibilities. The head of each Officer Education program is appointed to the rank of professor and must have a master's degree. Further, he must be a graduate of the Armed Forces Staff College or equivalent, be a lieutenant colonel (or commander) or higher, and have a minimum of six years retainability on active duty upon his appointment to Iowa State University.

The selection criteria may sound normal for a typical academic department. Nevertheless, the criteria are quite a change from the previous criteria used nationwide. Up until
1962, when Lt. Colonel Joseph Sage was assigned to Iowa State, the Military Department heads had only Baccalaureate degrees. From this writer's first hand observation and analysis it seems that Military Department heads have long realized they were in an academic community and they did not have the necessary academic credentials. This lack of academic credentials could very easily account for the tendency of the military personnel not to venture too far afield from the armory or the naval science building.

A positive sign on the part of the armed forces is the expressed requirement that all future ROTC staff will have master's degrees. The Air Force implemented the policy in 1970 and the Army is aiming for a 1976 target date for master's degrees for all ROTC officer staff. There has been discussions within the Navy about insuring all NROTC staff have master's degrees however, no target date has been set. It should be pointed out that several of the military officers in the ROTC Departments have held master's degrees, especially in the late 1950's and 1960's. Approximately fifty per cent of the officers who did not have advanced degrees took graduate courses at Iowa State. Between 1966 and 1968 seven officers completed the requirements for the Masters of Science degree. It is also important to note that since 1970 all three new appointments as Military Department heads have earned advanced degrees. Colonel Wilson A. Kluckman, the Professor of Naval
Science who was appointed in 1971, is the second PNS in a row to have an advanced degree. Colonel John Loye, the Professor of Aerospace Studies who was also appointed in 1971, has a Ph.D. in Educational Administration and is the first Military Department head at Iowa State to hold the Ph.D. Colonel Harold S. Whitlock has been nominated for a 1972 appointment as the PMS and is the holder of a M.B.A. degree.

Summary

There were several significant events that affected the ROTC programs at Iowa State from 1960 to 1970. The debate and ultimate transition from compulsory to voluntary basic ROTC showed that the University and the Military Departments could work together and solve their problems. The 1964 ROTC Vitalization Act no doubt helped stabilize the ROTC program as the enrollment eventually leveled off and the number of officers commissioned increased. Without the 1964 Act it is doubtful if the Army and the Air Force ROTC programs would have been able to survive in the late 1960's.

After voluntary ROTC was authorized, the University cooperated with the Military Department in helping to make the transition from compulsory to voluntary ROTC. During this period, the most significant occurrence was the appointment of the Iowa State ROTC Advisory Committee. This committee of four university professors (later named the Officer Education
Committee) definitely accomplished their mission of liaison between the ROTC departments and the Colleges of the University. The committee also helped promote the ROTC program and was an extremely effective sounding board for the ROTC units. It appears that the Officer Education Committee implemented a "signal accomplishment" when it devised the selection criteria for the faculty in the Officer Education program at Iowa State.

During the latter 1960's the ROTC units at Iowa State had accomplished the transition from compulsory to voluntary ROTC. Though the overall total enrollments are small in comparison to the days of mandatory basic ROTC, the number of officers commissioned are meeting the stated requirements of the armed services.

In the 1960's the three Military Departments made attempts to make their curriculums more academically acceptable. The Navy upgraded their weapons course to a more theoretical level and allowed the reduction in naval science credits to drop from thirty-six to thirty-one. The Army converted to a general military science curriculum and moved a number of military training activities to summer camp. The Air Force also generalized its academic course content even more when the new Officer Education Curriculum was introduced. The Army and the Air Force reduced the emphasis on drill as the "leadership training" (Army) and the Corps training (Air Force) became a required laboratory with no academic credit awarded. There
has been a substantial reduction in military drill at Iowa State and more academic subjects are covered during the normal laboratory periods.

The University did have some fairly tense moments during the student protest of 1970 but Iowa State University remained open and the Officer Education Departments continued to function as a viable part of the school. One could conclude that with the State Board of Regents' unanimous vote of confidence in the ROTC departments and the continued support of the University administration ROTC will be a part of the Iowa State campus for many years to come.
CHAPTER XI: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS OF
"A CENTURY OF MILITARY TRAINING AT IOWA STATE
UNIVERSITY 1870 - 1970"

The purpose of this study was to provide a history of military training at Iowa State University, Ames, Iowa, from its inception in 1870 until 1970. At the start of the study eight questions were asked to define the problem. Each of the questions were answered at some time during this dissertation. However a brief answer to each question should serve to focus the key elements of the first century of military training at Iowa State University.

1. Why was military training offered at the Iowa Agricultural College? Military training was interpreted to be required by the Land Grant Act of 1862 and since Iowa Agricultural College was a land grant institution military tactics became a part of the curriculum.

2. When and how did military training start at the College? The first Military Department was established in 1870, one year after the College opened its doors for the first official class of students. The Military Department was a one man operation and the training was originally required of all able-bodied male students. Both World Wars interrupted the officer training programs and several other military training units were operated by the college during the duration of each war. After World War I the four year Army ROTC program was
implemented in 1919 at Iowa State and continued until 1943. Immediately after World War II Iowa State offered military training by all three services. The four year Army ROTC program was reinstated in 1946 and included an "air unit" that later became Air Force ROTC in 1949. The Navy ROTC program was implemented in 1946 and made a smooth transition from the Navy wartime V-12 program.

3. Who were the early leaders of military training and what impact did they have on the College? The first fifty years of military training at Iowa Agricultural College were dominated by two military leaders, General James L. Geddes, 1870-1882, and General James Rush Lincoln, 1884-1918. General Geddes, the first Professor of Military Tactics implemented the military training and established the program on a creditable basis. Both General Geddes and General Lincoln had considerable impact on the College since they served in many capacities and were men of numerous talents. Each man served as the College steward, taught other courses, and participated actively in the College functions.

General Geddes stature on the campus was increased by his world travels and experience which he freely recounted for the students. Geddes also was a capable administrator and served as treasurer, vice president, and acting president of the College. General Lincoln's impact on the College was more closely related to his military career with the Iowa National
Guard in which he rose from the rank of captain to brigadier general in command of the entire Iowa National Guard.

Lincoln's tenure of thirty-five years as head of the Military Department and his training of 715 officers in addition to the thousands who took the required two years of training, attest to the fact that he had substantial impact on the Iowa Agricultural College and the military forces of Iowa.

Lt. Colonel Boles and Colonel Shaffer implemented the Army ROTC program at Iowa State immediately after World War I. Through the efforts of Boles and Shaffer and a cooperative administration and faculty the Army ROTC unit was well established on the campus by 1923. The Army ROTC program was able to carry through the "antimilitary" times of the 1920's and 30's with very little problem at Iowa State.

After World War II the early leaders of the three military departments had little chance to make much of an impact on the College as a whole. This lack of impact can be attributed to the increased size of the College, short tours of duty of the military officers and the changing values of our society.

However Colonel Busbee did re-establish the modern day Army ROTC program and get it stabilized during his three years at Iowa State. Captain Levin was able to make a smooth conversion for the wartime Navy training program to the modern day Navy ROTC. Lt. Colonel Bender started the air unit program under the Military Science Department and was succeeded by Major
Truesdell the first official professor of air science in charge of the modern day Air Force ROTC program at Iowa State.

4. How effective was the military training? It appears that the early military training was effective when it is considered that General Geddes had no model to follow and everything depended on just one man. However, he did obtain a small amount of equipment and made the most of limited facilities and funds. Both General Geddes and General Lincoln felt that military instruction was more than just drill under arms. They included instruction in ballistics, gunnery, ordnance, military engineering and tactics. In each area an attempt was made to apply the students' theoretical knowledge learned in other academic courses.

The main objective of the early military instruction was to train officers who could serve as instructors in "the school of the soldier and the company" and also as officers in the Iowa State Militia. Since General Lincoln virtually grew up with the Iowa National Guard and even designed and conducted much of the Guard training curriculum and tactics, it can be assumed that the IAC cadets did get the best training available and were able to serve as officers in the State Guard.

It appears that the military training after World War I under the modern day Army ROTC program was also effective. The effectiveness of the military training could be attributed to: the quality of the officers assigned (many officers were West
Point graduates) almost all officers had served in the different military campaigns of the time, there was plenty of military equipment available, the training had the support of the College, and the armory provided one of the finest military facilities in the nation. The success of the Iowa State 1943 and 1944 class of the Army ROTC graduates at the Fort Sill Oklahoma Officers Candidate School was indicative of the Army ROTC training.

It is more difficult to determine the effectiveness of the post World War II ROTC program at Iowa State. It appears that the caliber of the Iowa State military graduate must have been highly regarded since the College was one of only thirty schools that was selected to offer ROTC by all three branches of the armed forces. In 1970 the same three services are still commissioning what the services consider as an adequate number of officers from the University. One can assume that Iowa State graduates have served effectively or the military programs would have been subjected to considerable scrutiny by the armed forces. The Army is the only service that has maintained a record of how the Iowa State graduates performed in their branch school. Compared to the national average the Iowa State Army ROTC graduate ranks in the upper one-third of the branch school fifty per cent of the time.

One might also attempt to evaluate the effectiveness of the training by looking at the number of graduates of the
three programs. The Army has commissioned 3,870 officers from 1922 to 1970 while the navy has commissioned 704 from 1950 to 1970. The Air Force has commissioned 1,129 officers from 1949 to 1970 (this does not include the seventeen who were commissioned in the Air Force during 1948 when the air unit was under the Army ROTC). Overall 6,618 students have completed officer training since 1873 if the 715 officers trained by General Lincoln and an estimated 200 who were trained by General Geddes and Colonel Scott (estimated 20 per year for ten years) are added to the total of Army, Navy, and Air Force ROTC graduates. This total does not include the several hundred Navy V-12 graduates nor the Iowa State graduates who undoubtedly have taken some military training at Iowa State and then received commissions through other sources.

5. How was the training accepted over the years? The early military training was handled so efficiently and effectively that there was little or no cause for non acceptance of the military training. The College then operated under very strict rules and the military discipline seemed to fit. In the early years the Military Department had more pomp and ceremony than any other department and commanded more than its share of attention. General Lincoln's long tenure at the College and his stature as a soldier served as a stabilizing influence and little or no discord was heard.

After World War I the military training was still well accepted since the quality of the instruction was good and the
patriotic spirit was still high. The military training at Iowa State did not come under as much "antiwar" feeling as it did on other campuses since the training had the support of the administration and there were a large number of reserve officers on the faculty who tended to serve as a stabilizing influence. The Iowa State campus also had a good sense of humor and could make and accept jokes about the military training. To the average cadet there seemed to be a lot of drill and the acceptance of the military training was declining before World War II. After the war the size of the University and the large numbers taking the military training only because it was required detracted from its acceptance by the students. Interest and acceptance of the military training was fairly high during the Korean War. However the late 1950's saw the status of mandatory training being questioned with the debate being resolved in 1962 when voluntary basic ROTC was started. Voluntary ROTC has had its ups and downs but is better accepted by the students taking the training even though those not in the program may not think too highly of the Officer Education programs. It appears that the University accepted the ROTC Departments as partners in an educational undertaking of furnishing career officers for the armed services. The overall general acceptance of the military training throughout the first century at Iowa State can be attributed to the high quality of training, support of the administration and faculty, and the
high caliber of the Iowa State students.

6. What changes have occurred in the training from its inception in 1870 and what caused these changes? The early military training was aimed at producing a citizen soldier who could serve his country in time of need. The early military training may seem elementary today, however it appears the training was sufficiently based upon the known tactics, weapons available, and the expected limited opportunity for service in the state militia.

After World War I the aim of producing a citizen soldier was still the theme but the military training graduate was to be qualified to serve in the reserve forces of the United States rather than just the state militia. Once the Federal Government became more involved with military training in higher education the programs were conducted by active duty military personnel and had a standardized curriculum over which the schools had little control. World War II pointed out the need for a larger standing military thus the military training programs in higher education were expanded. At Iowa State the expansion included offering military commissioning programs in all three services. After World War II the curriculum was still basically oriented towards the individual service and the main aim was to produce reserve officers. However, the Korean conflict brought about the active duty requirement and with the exception of Navy ROTC, the trend has
been toward providing pre-professional training that could lead to a career in the armed forces. The Navy provides both pre-professional and military skills required to be an immediately employable ensign.

It appears that the changes to the military training in higher education has been brought about by the needs of the country and by Federal legislation. When new demands developed, legislation would be adopted to implement the necessary changes. In the 1960's it appears that the changes in the military training program have been brought about by legislative action and public pressure to create a completely voluntary military training program that would be academically acceptable to the colleges and universities. When it appeared that the Army and Air Force ROTC programs might not be able to survive in a completely voluntary atmosphere, new legislation was passed that made the military programs more attractive. The armed forces have worked to make their academic programs more acceptable, the instructors better qualified academically, and the financial support to cadets more lucrative.

The 1960's have seen many changes in the military training programs: the name of military training was changed to Officer Education; the offering in other academic departments some of the military subjects required for Officer Education; review of military curriculum by the University Curriculum Committee; elimination of college credit for military drill and allowing
majors and minors in officer education. All of these changes are important but two other changes were the most significant. These two changes involved the change to voluntary basic ROTC and the appointment of the Officer Education Committee. Volunteer ROTC removed the major irritant of "having to take ROTC" and the Officer Education Committee formalized a sounding board and coordination committee for the Officer Education programs.

7. What were the influences of the four major military conflicts during this time period? During the 1870-1970 time period the United States was involved in World War I, World War II, the Korean War, and the Vietnam War. Before looking at the effects of these four conflicts a brief mention will be made of the Spanish American War. This 1898 war helped focus the attention of the campus on the Military Department through its commandant General Lincoln. Through the General's service as a Brigadier General of the U.S. Volunteers the College paid a little more attention to the Military Department for a few years. The General and his cadets needed a lift in morale as the program had definitely taken a back seat to athletics and other campus activities in the middle and late 1890's.

The impact of World War I on the military training at Iowa State College was considerable. As the war approached more time was set aside for military training which was made
compulsory for all four years. The faculty even formed a volunteer company. As the needs of the country became so great for trained military personnel the campus was virtually mobilized when the Student Army Training Corps was formed. After the Armistice the College quickly returned to a peacetime footing and plans were made for the modern day ROTC program.

During World War II the ROTC training continued at Iowa State, except that no advanced course was taught from 1943 to the end of the 1945-46 school year. The freshman and sophomore course was compressed into a one year modified wartime program. When the advanced ROTC cadets were called to active duty in 1943 the ROTC training was reduced to where it was hardly noticeable when compared to the special military programs. Earle Ross described the campus as a mobilized college. The Navy almost took over the whole campus, for its four major technical training areas and the V-12 officer program. During World War II Iowa State furnished hundreds of its graduates as officers and over 12,000 men who were trained in the technical programs. After V-J day, the campus was quick in its desire and action to return to a peacetime footing. However the administration very carefully made sure the College offered ROTC by all three branches of the armed forces. It appeared that having an ROTC program might help the College retain its students should another military conflict arise.
The Korean War brought renewed interest in ROTC and the total enrollments went up even though the total college enrollment went down. This conflict was the first military conflict where the campus could proceed with a business as usual attitude. The ROTC programs probably helped stabilize the College enrollment. The patriotic spirit was much less evident and the objective of the students taking ROTC was mainly a way to stay in school.

By the time of the Vietnam War the ROTC programs at Iowa State were very small in size as the enrollments had continued to drop since compulsory basic ROTC was dropped in 1962. There was some renewed interest in ROTC in 1966 but nothing like in previous wars. It was interesting that rather than seeing students become more interested in ROTC it seems the military units became the target for an anti-war sentiment. This was the first time this situation had arisen on the Iowa State campus. By 1970 the Military Departments had adopted a low profile on campus in the hope that the wave of anti-military sentiment would fade.

It suffices to say that the Iowa State campus was virtually mobilized during World War I and II. The patriotic spirit of the campus was high in support of the two World Wars. During the Korean War the patriotic spirit was less evident but the interest in the ROTC programs was very high since this was one way to at least stay in school until graduation. Like the
first three major conflicts of this time period the interest in the military and the advanced ROTC faded rapidly after the war was over. The Vietnam War at first created some interest in the ROTC programs, however, resentment against the military training being on campus grew as the Vietnam conflict was drawn out over the years. Though the protest on the college campuses had been strong across the nation the Iowa State protests were peaceful and the school remained open.

8. What is the future of ROTC (Reserve Officer Training Corps) at Iowa State University? Military training has survived for over 100 years on the Iowa State campus. The first forty-nine years of the training was to provide officers for the state militia. The last fifty some years at Iowa State has seen the Army ROTC (1919) joined by the Navy ROTC (1946) and the Air Force ROTC (1949) to train officers for the U.S. Reserve and active duty forces. Each of the ROTC units have had their ups and downs but have reached their maturity and are an accepted department within Iowa State University. Virtually every level in the power structure of the State of Iowa has voiced their continued support of the ROTC programs. The ROTC programs at Iowa State have shown their ability to adjust in a rapidly changing environment to meet the requirements of the University and the nation. Therefore, it is likely that the ROTC programs at Iowa State will remain an accepted and effective part of Iowa State University and continue to furnish officers for the defense of our country.
Conclusions

From the findings of the investigation the following conclusions were reached:

1. The Military Departments have been an accepted part of Iowa State for over 100 years and that more than 6,600 graduates have completed the officer training.

2. The Iowa State administration has supported the Military Departments and have long been active on the national scene in the support of military training in higher education.

3. The modern day ROTC program is flexible enough to be able to remain a viable entity of Iowa State University.

4. The military association has been good for Iowa State and Iowa State has been good for the military.

Recommendations

While this study was being made, it became evident that several areas merit future study. The most pertinent recommendations are:

1. The three Military Departments should consider more ways to coordinate their education programs. Two key areas could be, conducting a team-taught interservice military seminar in the sophomore year and the consolidation of the three flight instruction programs. The team-taught sophomore seminar should include a study of the three military services mission, organization, and capabilities.
2. The Officer Education Committee should be continued and a yearly report of the Military Departments and the committee be forwarded to the appropriate University authorities.

3. A periodical follow-up study of the Iowa State graduates should be accomplished by each of the armed forces to determine the effectiveness and ways to improve the officer education program at Iowa State.

4. The Air Force and the Army ROTC Officer Education units should initiate a history file similar to the NROTC Command History File. Further that each Professor--PMS--PNS--PAS--prepare a brief report on the activities and events during his tenure at Iowa State. This report should include enrollment, number commissioned, activities of the staff and cadets, and pertinent changes in the program. The report should be filed in the individual unit history file and a copy placed in the appropriate military file in the Iowa State University Library, Special Collections room.

5. The 1970 "criteria for selection of military faculty at Iowa State" should be followed implicitly.

6. A copy of this dissertation be made available for reading to all presently assigned and newly assigned military personnel to provide a background on what has gone before.

7. A two hour block of instruction on the history of military training at Iowa State University should be included
in the American Military History course taught at Iowa State University.

In summation, to paraphrase Sherman D. Lee, the chairman of the Army ROTC Advisory Panel—"Some critics have charged that ROTC represents the presence of the military in the university. I prefer to think that ROTC represents the presence of the university in the military."
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ACKNOWLEDGMENTS

The writer would like to express his appreciation to the United States Air Force for affording him the opportunity to take time from his normal military duties for two years to engage in full-time doctoral study under the auspices of the Air Force Institute of Technology. Many people in the Army, Navy, and Air Force ROTC at Iowa State University assisted in furnishing needed information in the research phase of this dissertation. In respect to this help, the writer would like to emphasize that the opinions, comments, and conclusions expressed are his, and should not be considered the official position of any of the Iowa State University ROTC personnel.

A special appreciation is extended to the writer's advisor, Dr. Richard P. Manatt, who has provided continual support and encouragement ever since the writer commenced his graduate work at Iowa State University in 1964.

Members of the dissertation committee, Dr. Ross Engel, Dr. Arthur Gowan, Dr. Roy Hickman, and Dr. George Kiser provided encouragement, counsel and direction. Their help was instrumental in planning, writing and editing this dissertation. Dr. Walter Rundell Jr. was of particular help in this writers historical research training and a constructive evaluator of the first attempts at providing a history of military training at Iowa State University.
Mrs. La Dena Bishop was most helpful in assisting with the many technicalities of the dissertation as was Mrs. Maxine Bogue the thesis typist.

The writer would like to express his deep appreciation to his wife, LaVerne, for her patience, encouragement, and technical assistance in all phases of the preparation of this dissertation.

Lastly, my children, Terry, Cheri, and Mike who were unfailing in their encouragement and support.
APPENDIX A: BIOGRAPHY OF GENERAL JAMES L. GEDDES

Geddes, James Loraine (Mar. 19, 1827-Feb. 21, 1887), soldier, college administrator, was born in Edinburgh, Scotland, the son of a British officer, Capt. Alexander Geddes, and of Elizabeth (Careless) Geddes. When he was ten, his father, who had become deeply religious, feeling that he should seek a simpler and more wholesome environment for the rearing of family, emigrated to Canada. The provincial surroundings were not to young James's liking, however, and at sixteen, by working his passage, he returned to relatives in Scotland. Soon after, in 1845, he visited a soldier uncle in India and entered the British military academy at Calcutta. After two years of study he joined the Royal House Artillery and had seven years of active duty under Gough, Napier, and Campbell. For this service he was awarded a medal, and upon his decision to rejoin his family he was made a colonel of Canadian cavalry. While in Canada, Oct. 14, 1856, he was married at St. Thomas, Ont., to Margaret Moore. The Canadian service was not congenial, and in October 1857 he resigned his commission and removed to Iowa, settling on a farm in Benton County, near Vinton. Wholly inexperienced in farming, he supplemented his income by teaching a country school. He was thus engaged when the outbreak of the Civil War brought a new opportunity.

Before the war began he had been drilling a local company, which upon the organization of the 8th Iowa Infantry became its Company D. When the company was mustered, Sept. 16, 1861, he was commissioned captain, one week later was advanced to lieutenant-colonel, and on Feb. 7, 1862, was promoted to a colonelcy and the command of the regiment. Its initial service was with Fremont in Missouri, but its first real fighting came at Shiloh, Apr. 6, 1862, where the 8th Iowa was one of the regiments called to the support of Prentiss in his crucial buffer position. This reorganized division by holding the "hornet's nest," until after severe losses it was forced to surrender at the end of the day.

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helped to preserve the main army for its triumph on
the morrow. Col. Geddes, himself among the wounded,
was highly commended by Prentiss for his part in the
action. He was exchanged in time to be in the
fighting at Vicksburg and Jackson, acquitting himself
so creditably that, in October 1863, he was placed in
charge of a brigade. After brief service in Texas
the brigade was transferred to Memphis, Tenn., where
Geddes served with tact and efficiency as provost-
marshal of the district. His last important engage-
ment was in the Mobile campaign in which his brigade
had a conspicuous part in the capture of Spanish Fort.
For this achievement he was made brevet brigadier-
general, June 5, 1865. He resigned from the service
on June 30.

Soon after the war he was called to the super-
intendency of the Iowa Institution for the Education
of the Blind, where for two years (June 1867-July 1869)
he dealt with problems of administration and instruc-
tion conscientiously and intelligently. He was
interested from the first in the state's land-grant
college at Ames, and became its steward in 1870. The
next year he was appointed professor of military
tactics and engineering, and to the duties of this
position those of vice-president and deputy treasurer
were soon added. His teaching was most notable in
connection with the launching of military instruction
in a land-grant college. His training, enthusiasm,
and high military ideals enabled him to achieve
gratifying results in skill and discipline under
serious limitations. In November 1882, a board un-
favorable to the existing administration among other
measures of reorganization discontinued Geddes's
services. This action led to great protest from
students and other friends throughout the state, and a
new board in December 1884 appointed him college
treasurer and recorder, and later, June 1886, college
land agent also. He held these positions until his
death, which was occasioned, in his sixtieth year,
largely by war disabilities.

Slender, erect, elastic of step, with sharp,
clearcut features, Geddes appeared the true soldier;
his personality exemplified the ideal military gentle-
man. Without relaxing his dignity, he had a kind,
modest, considerate manner that won the respect and
affection of soldiers and students, fellow officers and colleagues. His interests, developed by travel and wide reading, were broad and tolerant. He was an amateur artist of some talent and a writer of war songs better in form and more restrained in sentiment than the average of such productions.
APPENDIX B: SONG BY COLONEL JAMES L. GEDDES

The Bonnie Flag with the Stripes and Stars, by Colonel James L. Geddes.

1. We're fighting for our Union, We're fighting for our trust
   We're fighting for that happy land where sleeps our Fathers dust
   It cannot be dissevered tho' it cost us bloody wars
   We never can give up the land where float the Stripes and Stars!

2. We treated you as brothers until you drew the sword
   With impious hands at Sumpter you cut the silver cord
   So now you hear our bugles, we come the son's of Mars
   We rally round that brave old flag which bears the Stripes and Stars.

3. We do not want your cotten, we care not for your slaves
   But rather than divide this land, we'll fill your southern graves
   With Lincoln for our Chieftain, we'll wear our countrys scars
   We rally round that brave old flag, that bears the Stripes and Stars.

4. We deem our cause most holy, we know we're in the right
   And twenty millions of freemen stand ready for the fight
   Our bride is fair Columbia, no stain her beauty mars
   O'er her we'll raise that brave old flag, which bears the Stripes and Stars.

5. And when this war is over, we'll each resume our home
   And treat you still as brothers where ever you may roam
   We'll pledge the hand of friendship, and think no more of wars
   But dwell in peace beneath the flag, that bears the Stripes and Stars.

Chorus

Hu-rah, Hu-rah for equal rights hu-rah
Hu-rah, Hu-rah for equal rights hu-rah
Hu-rah for the brave old flag that bears the Stripes and Stars!
Hu-rah for the brave old flag that bears the Stripes and Stars!

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APPENDIX C: BIOGRAPHY OF GENERAL JAMES RUSH LINCOLN

This biography of General James Rush Lincoln was in the Military Folder (AD11) of the Iowa State University Library Special collection Room. It was furnished by the member of General Lincoln's family and was published almost verbatim in the August 14, 1922 Ames Tribune. The biography is quoted here in a slightly condensed version with one correction note.

GENERAL JAMES RUSH LINCOLN was born in Frederick County, Maryland, Feb. 3, 1845, a son of Thomas Blodget Lincoln and Sophia Julia (Ash) Lincoln, both of whom were natives of Philadelphia, Pa., where they were reared and married. The father was one of the original directors of the Southern Pacific Railroad and also spent considerable time in Texas in the development of railroads in that state. He likewise owned a large stock ranch there. He inherited an extensive fortune, which gave him opportunity to live as and where he pleased, and in many ways his wealth was used for the advantage of the sections in which he resided. He lost his wife when their son, James, was but three months old; after which the father spent much of his time traveling.

General Lincoln traveled with his father until nine years of age and had been all over the continent prior to that time. A private tutor accompanied them and thus his education was not neglected. At the age of nine, however, he was placed in school and continued his studies until after the outbreak of the Civil War, attending the Louden Military Academy of Maryland, the Virginia Military Institute and the Pennsylvania Military College. After the outbreak of hostilities the military spirit which he inherited from his ancestors [several previous generations had attained high rank in the military] was aroused and, espousing the cause of the Confederacy, he joined (the 1st Maryland Cavalry unit to go out from Rockville, Md.)

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1 Iowa State University, Special Collections, Military Folder.
J. E. B. Stuart's cavalry, which with Lee's army, surrendered at Appomattox. He was serving on staff duty at the battle of Gettysburg and participated in a number of hotly contested engagements of the Civil War.

General Lincoln afterward spent two years in Virginia (and being dissatisfied with Reconstruction conditions) then came to Iowa, settling in Boone in Feb. 1868. (He first homesteaded, then became Superintendent of the Northwestern mines in Boone.) He remained a resident of Boone until 1883 when he came to Ames and took charge of the military department and stewards department of the Iowa State College, remaining in charge of the military department until 1922 but resigning the stewards in 1892. [General Lincoln headed the military department until 1919 when Lt. Col. John Boles reported as the first active duty officer to serve as Professor of Military Science and Tactics. General Lincoln did continue to be associated with the military department as an Assistant Professor until 1922.] He also taught in the engineering department but was most widely known because of his military work. He mobilized the Iowa troops for the Spanish-American War and sent them to the front. He was appointed a Brigadier General of Volunteers by President McKinley on May 27, 1898. Commanded a brigade in the Fourth Corps, later one in the Second Corps and subsequently the Second Division of the Second Corps. He was the last volunteer general to mustered out of service, this on March 16, 1899. He then returned to Ames and resumed his work with the Iowa State College. At the reorganization of the Iowa National Guard he took command of the 51st regiment and later of the 55th. On the 5th of July, 1906 he was elected brigadier general of the Iowa National Guard (and served thru 1919). During World War (I) he was again called into active service as a Major and placed in command of the Student Army Corps at Iowa State College. This gave him the distinction of being the oldest officer on active duty and one of the very few who had seen service in the three great wars.

General Lincoln was a man of fine personal appearance, whose soldierly bearing was always the evidence of his military training and experience. He always held others to a high standard in his work
at the college and was in return held in the highest esteem by all the students. Both he and his wife died in the home at Ames in 1922, Mrs. Lincoln on July 4, and the General just a month later, August 4. They are interred in the college cemetery.
APPENDIX D: A TRIBUTE TO GENERAL LINCOLN

One of the most glowing tributes paid to a faculty member of Iowa State College was delivered by Colonel Guy S. Brewer (class of '97) during the Armistice Day exercises, November 11, 1922, shortly after General James Rush Lincoln's death. It is presented here in slightly condensed form. The full text of "A Tribute to General Lincoln" is in typewritten manuscript form in the Military Folder of the Special Collection Room of Iowa State University, Ames, Iowa.

I deeply appreciate the privilege of speaking on this occasion. General Lincoln was my friend and I feel that in his death I have lost not only a friend but a comrade. This college and community has likewise lost a friend and comrade. His influences marked the students of this institution for nearly forty years—he believed that their most important training was their military education.

His sterling character and indomitable spirit has exerted an influence that I cannot measure by words. It is not possible to picture such a character, but those of us who came in contact with it feel its influence. It is impossible to tell of the breadth and depth of that influence. Those of us who have felt it, value it today as a priceless heritage.

Above everything else, General Lincoln was a soldier. His speech, actions and very presence, more than ordinary knowledge of other affairs, but in military subjects he was a giant. On the surface he often appeared to be a strict disciplinarian and unsympathetic, but after all he was a kindly spirit that loved friendships and appreciated the companionship of comrades... . It was well known (as the military saying goes) that those he liked best he rode the

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1 Guy S. Brewer, "A Tribute to General Lincoln," typewritten manuscript, Iowa State University, Special Collections, Military Folder.
hardest, but the twinkle in his eye softened many a rebellious spirit which for the moment mutinied at his stinging reproof. Those that seldom drew criticism or reproof soon learned that, in his judgment, they were hopeless as military leaders.

General Lincoln was in no sense a dreamer, yet his keen mind was constantly ahead of his time. Today his friends are aware of the fact that many of the things he advocated in years gone by are now accepted by recognized authority. It may truthfully be said that in a military way he was a prophet.

Iowa, which has produced many great men has never produced a soldier comparable with James Rush Lincoln. He never sought by platitudes and verbiage to excuse the part he took in the War of the Rebellion. I have heard him say that at that time he believed himself in the right, but had long since learned that he was wrong. That was all he ever said about it, and that illustrates another side to his character. Because of the honesty of his opinion, if he learned that he was wrong he announced it as unhesitatingly as he had originally proclaimed his stand. He detested sham and counterfeit and his acute mind could easily detect these vices.

General Lincoln was on many occasions, extending back to my first acquaintance with him, criticized by representatives of the War Department for not developing a technic in his enlisted man. He always justified his lack of perfection in the school of the soldier by the statement that he was interested only in developing officers. In other words, Lincoln used his enlisted men as pawns in the game that officers might be developed. Twenty-five years ago he insisted that should this nation have occasion to go to war, it would sorely need officers—that enlisted men would readily be secured. That was just the condition this country found itself in in 1917 when we made war against Germany and the Central Powers, and, true to his prediction, officers were needed; the draft procured the enlisted men and it is to his credit that the Iowa State College furnished many officers in the World War.
As a student of tactics his judgment was sound. In the National Guard Camp held at Centerville in 1895 he adopted a scheme of reinforcing the firing line in open warfare similar to the squad columns used in the World War. At that time this formation was not in conformity to drill regulations, but he maintained that it was a correct formation and the only one feasible against heavy artillery fire. And he lived to see this statement fully justified on the fields of France even though our regular army did not adopt it for nearly twenty years after he first used it. In 1895 he published a small handbook on riot drill that was the first publication of that nature that had been issued in the United States and for years it was the only American publication of that character.

His fame as a military man was greatly amplified by his work with the Iowa National Guard. General Lincoln held positive views on a defense system for our country. It was not his nature to wait until an emergency arose before he thought of the remedy. He was a believer in the regular army, but he also believed that our great strength should be reposed in the irregular forces. He was a constant advocate of a small but highly developed regular establishment from which and around which could be mustered our citizen soldiers. He believed it was an economic loss to maintain a large standing army. He admitted the need of such an establishment, but he also believed that it should be as small as possible and yet function.

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His constant thought in all his military training was the development of troops for the field. He could never think of his officers and men as peace time soldiers. Not that he loved war nor that he sought conflict, but because he realized that as long as the human race was subject to uncontrolled passion that war was inevitable, it was for that day—the hour of need—that he prepared.

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If one element of his character was more outstanding than the rest, it was the intense loyalty to our country. This is the more remarkable when we consider that in the sixties he was a rebel; but perhaps because of that he saw and felt the need of
loyal men and bent his energies that his college, founded and maintained by the state and nation, should in a sense be a citadel upon which the state might draw for loyal men. From the beginning he taught military preparedness; this at a time when others were content in the belief that their country would never again see a great war.

This morning I think of Lincoln as a sentry on post. There he walked in charge of his post and all government property in view, keeping constantly on the alert, observing everything within sight and hearing. As to the sentry, it mattered not if it rained or the sun was hot or the wind was cold, he had a duty and he performed it. The criticisms and debates of others concerning his country did not seriously interest him. He was for the United States of America against anybody and everybody and Lord help him who did not respect the sovereign power of our nation. The flag emblematic was entitled to respect and with General Lincoln in camp, it received it.
APPENDIX E: GENERAL LINCOLN'S 1901 REPORT

The following report is a handwritten two page annual report of James Rush Lincoln, Professor of Military Science and Tactics at Iowa State College, dated May 21st, 1901, to President W. M. Beardshear. It is one of the few original documents dealing with the Military Department of Iowa State College in the early days that is still available. It seems the papers of early College presidents retained few original military reports and the files of the Military Department were destroyed by fire in 1900 and again in 1922.

The report was located in the Military Collection folder (AD 11) of the Special Collection room, Iowa State University Library. The report of General Lincoln was placed in the Military Collection folder in 1953 by Mrs. Dorothy Kehlenbeck, University Archivist. It was originally in the papers of former College President William M. Beardshear.

General Lincoln, like most department heads said his department was doing the job, but felt more could be accomplished if they had necessary finances and equipment. Having lost a considerable part of the military equipment during the fire of the 1900, General Lincoln felt he was in a advantageous (or maybe necessary) position to make additional request for funds. The report is as follows:

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1J. R. Lincoln, "Report of Department of Military Science and Tactics 1901" (handwritten report, Iowa State College, Ames, Iowa, May 21, 1901.).
Iowa State College,
Ames, Iowa May 21st 1901.

President W. M. Beardshear,

Dear Sir:

I have the honor to report that the work in the Military Department for the past year has been as successful as usual, with perhaps better results from, and more interest in, the Officers school which occupied 3 hours each week. In addition a class in fencing with broadsword and one in Military Engineering has been conducted with one hour recitations each week. Particular attention has been given to road-making in the Engineering class. The repair and care of Flag Staff has used most of the money this year appropriated for the department, and prevented getting other necessary articles for this work. The fire destroyed over one half of the swords and belts of the department, as well as many rifles. On this account many officers have to drill without arms. It will cost about $75.00 to replace the swords and belts destroyed. The appropriations actually required for the Department for one year should be at least $200.00, to give the necessary means for conducting the work efficiently. The halyards of the Flag Staff were cut by some miscreant two weeks before the present College term opened, and it is very desirable to have it replaced. I do not believe it was cut by a student, but probably some outsider. The carriage of the College Cannon is entirely worthless for use, though all the iron can be used in its repair. Would request that $100.00, or so much of that amount as may be required, be allowed to restore the gun to a proper condition for use.

With appreciation, I remain, Respectfully,

Prof: Military Science and Tactics
James Rush Lincoln
Footnotes for James R. Lincoln's Report

1 General Lincoln had always prided himself in conducting the military training in an efficient, precise, and successful manner.

2 General Lincoln was a firm believer in the military training being aimed at "officer training" so the country would have capable military leaders if the need arose. He was criticized on later federal inspections since he made no attempt to train NCO's. He did not change his main thrust from officer training throughout his many years at I.S.C.

3 In previous reports (that were published in the Biennial Reports of the College) General Lincoln had made request for an increase in money for the military department. This reference dramatized the extremely small amount that was received to operate the department in that most of it was used just to repair and care for the Flag Staff. This could have been another way of General Lincoln expressing his patriotism and reverence for the United States Flag, i.e., he would spend a major portion of the department's budget to keep "Old Glory" flying. Anyone that served under him at the college or in the Iowa National Guard knew of his intense patriotism and high regard for the flag.

4 The "Old Main" (the main campus building) was damaged by fire in the North Wing in 1900. Since the military equipment was stored in the basement some of it was lost or damaged.

5 The drilling with sword, belt, and arms was specifically reserved for the junior and senior year cadets who served as officers of the cadet corps. Without these prestigious adornments the image of the officer (or advanced cadet) would be tarnished since some of the symbols of advanced leadership positions would not be evident.

6 It is duly noted that President Beardshear did recommend $200.00 in his 1901 report to trustees for the coming school year.

7 General Lincoln had many contacts with all the students. He felt his students would not do such a dastardly thing as to cut the flag staff halyards. Since it occurred two weeks before the school term began it seems unlikely that there were any students on campus. It is also interesting to note the item "Rope on Flag Pole" was included in a report to the Board of Trustees by President W. M. Beardshear on March 13, 1901 (over two months before General Lincoln's report). Evidently the rope or "halyards" had not been repaired by late May, 1901 when General Lincoln made his report.
The college had only the one cannon and artillery training was a part of the sophomore curriculum. The training in the past had been quite limited due to the condition of the cannon carriage and if it was not repaired that phase of artillery training would only be theoretical. This was against the grain of a Land Grant school that had pioneered the idea of the workshop as a practical application of theoretical knowledge.

President Beardshear had in earlier reports (1898-1900) for the annual meeting of Board of Trustees quoted General Lincoln's report in its entirety. This year (1901) his report was paraphrased as it was longer than usual and it dealt with minor details that should not necessarily be of concern to the Board of Trustees. President Beardshear went one step further and restated one of General Lincoln's previous requests for an appropriate Armory which was needed for indoor drill and the storage of weapons.

The annual report of the Military Department has been a part of the Iowa Agricultural College since 1870 and continued for several years. Since the military departments on the present campus are more orientated to the military command structure, monthly and yearly military reports are filed but not to the college. Reports of the military departments to the college president are no longer required and are very seldom initiated by the departments themselves. Occasionally a report is presented to the "officer education committee" of
Iowa State University.

Due to several reasons, one of which is the size of Iowa State University, the department heads no longer deal with or report directly to the college president. The day of personal relationship and direct reporting of the department heads with the college president are but memories of a by-gone era.
APPENDIX F: ARMY ROTC 1922 COURSE DESCRIPTION

The Military Department course of study that was implemented just before the 1920 school year and published in the 1921-22 catalogue is presented below as it was revised in 1922-23 academic year. The curriculum would remain basically the same until the 1934-35 year. The Infantry curriculum would be dropped in 1924 and the veterinary course in 1934.

Description of Studies

INFANTRY

21a, 21b, 21c. Drill, Military Courtesy, Physical Training; Infantry Drill and Rifle Marksmanship; Scouting and Patrooling, Inf. Drill and Ceremonies. Fall, Winter, Spring respectively.

22a, 22b, 22c. Map reading and sketching; Command and Leadership; Military Hygiene, Infantry weapons, bayonets, auto rifles, grenades; Musketry. Fall, Winter, Spring.


24a, 24b, 24c. Tactics, Command and Leadership; Military Law, History, Tactics, Administration. Fall, Winter, Spring.

ENGINEER


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1 Iowa State College Catalog, 1923-24, p. 193.
33a, 33b, 33c. Mapping, Map Reproduction. Inf. Drill, Eng'r Drill, Tactics; Engineer Organization, Military Bridges, Minor Tactics (Combat Engineering) Fall, Winter, Spring.


FIELD ARTILLERY

41a, 41b, 41c. Fundamentals of Military Science. Field Artillery Drill; Ordnance and Material. Fall, Winter, and Spring quarters respectively.

42a, 42b, 42c. Mounted Instruction, F. A. Drill; Topography and Reconnaissance, F. A. Motors and Transportation, Mounted Instruction. Fall, Winter, Spring.

43a, 43b, 43c. Mounted Instruction F. A. Drill; Ordnance and Material, Gunnery. Communications and Engineering Field Artillery Firing. Fall, Winter, Spring.


VETERINARY


Military was required for Freshman and Sophomores who had one hour of lecture and two hours of drill per week for one hour of credit per quarter.

Juniors had two lectures per week and three hours drill for three hours credit except for the veterinarians who only had one hour drill received 2 hours credit.
APPENDIX G: ARMY ROTC 1934-35 COURSE DESCRIPTION 1

ENGINEER

101, 102, 103. Organization of the Army; military discipline, courtesy and customs of service; military sanitation and first aid; national defense act; military history and policy; military obligations of citizenship; current international situation; leadership; rifle marksmanship; weapons and musketry; scouting and patrolling.

201, 202, 203. Organization and duties of engineers; map and aerial photograph reading; military sketching; map making; rigging; leadership and command; scouting and patrolling; combat principles, the rifle squad.

301, 302, 303. Interior guard duty; care of animals and stable management; military roads, location and construction; military roads, maintenance and repair; military bridging, general; military bridging, floating bridges; military explosives and demolitions; field fortifications, trenches; field fortifications, emplacements; field fortifications, obstacles; field fortifications, protected shelters; combat orders and solution of problems, engineer; combat principles of infantry units; combat principles of engineer units; mechanization; leadership; military bridges, fixed.

401, 402, 403. Supply and mess management; emergency procurement and funds; organization and duties of engineers; construction in war; fixed bridges; combat principles, the company; organization of the ground; defense against chemical warfare; the law of military offenses; courts-martial; administration; military history and policy; leadership.

FIELD ARTILLERY

121, 122, 123. Military fundamentals; Orientation, national defense act and R.O.T.C.; obligations of citizenship; military history and policy; current international situation; military discipline, customs and courtesy of service; military sanitation and first aid; military organizations and organization of

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1 Iowa State College Catalog, 1934-35, pp. 261-62. Each of the above listed courses were taught fall, winter, and spring respectively. The courses listed in the 100 and 200 series each required one lecture and two drills for one credit each quarter. The 300 and 400 courses had two lectures and three drills for three credits each quarter.
the field artillery. Leadership (Practical drills). Field artillery instruction; Elementary gunnery; duties of gunnoneers and firing battery; field artillery ammunition and material.

221, 222, 223. Leadership. Transport: Care animals, stable management; equitation; driving and draft; automotive vehicle operation. Field artillery instruction: Fire control instruments; map and aerial photograph reading; battery communications; battery detail and reconnaissance, selection and occupation of position.

321, 322, 323. Leadership. Gunnery: Elementary ballistics and dispersion; preparation of fire; conduct of fire. Reconnaissance, selection and occupation of position: Duties of battery officers; the battery detail; field artillery communications; liaison with infantry. Transport: Equitation; driving and draft; automotive vehicles. Pistol marksmanship.

421, 422, 423. Leadership: Command and instruction student organizations; transport (animal). Tactics; military history and policy; military law and administration.
APPENDIX H: ARMY ROTC ENROLLMENT AND
AND COMMISSIONING DATA 1921-1941

<table>
<thead>
<tr>
<th>Year</th>
<th>Freshman</th>
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<th>Senior</th>
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TOTAL 1,347

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1Iowa State College, Army Reserve Officers Training Corps, Report of Enrollment and List of Graduates commissioned from ROTC advanced course, Army ROTC Files, 1921-1941. Enrollment figures are for October 1st each year. The total number commissioned from 1922 to 1941 is 1,347. Even though the veterinary unit was dropped in 1934 veterinarians were still commissioned for five more years and consequently with the 1936-1939 veterinarians included the total commissioned is 1,445.
APPENDIX I: POST WORLD WAR II ARMY

ROTC COURSE DESCRIPTION

111, 112, 113. Military Science I. (0-1-2) Cr. 1 each.
Military fundamentals; organization; leadership; world
military situation; marksmanship; use of maps and aerial
photographs.

211, 212, 213. Military Science II. (0-1-2) Cr. 1 each.
Prerequisite: 113 or service in the armed forces, or
three years service in a federally recognized Junior
ROTC.
World military situation; leadership; administration;
evolution of warfare; military law.

ADVANCED COURSES
(primarily for undergraduates)

Courses in Engineer Unit

301, 302, 303. Military Science III.
Prerequisite: 213 or extended service in the armed
forces.
Leadership; military problems of the United States;
military law; military engineering, including bridge
design, camouflage, reconnaissance, explosives, roads.

401, 402, 403. Military Science IV.
Prerequisite: 303.
Command and staff; psychological warfare; geopolitics;
leadership; mobilization and demobilization; military
engineering; including airborne and amphibious operations,
construction and utilities; combat principles; engineer
estimates; river crossing operations.

Courses in Field Artillery Unit

321, 322, 323. Military Science III.
Prerequisite: 213 or extended service in the armed forces.
Leadership; military problems of the United States;
military law; field artillery tactics and technique,
including field artillery material, gunnery, communications,
observed fires, reconnaissance and survey.

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1Iowa State College Catalogue 1947-1948, pp. 244-246,
1949-1950, p. 267. All the advanced courses (except veterinary)
include three hours of lecture and two hours of drill for
three credits each quarter.
421, 422, 423. Military Science IV.
Prerequisite: 323.
Command and staff; psychological warfare; geopolitics;
leadership; mobilization and demobilization; field
artillery tactics and technique, including fire direction,
reconnaissance, selection and occupation of positions,
target location, observed and unobserved fires.

Courses in Signal Corps Unit

331, 332, 333. Military Science III.
Prerequisite: 213 or extended service in the armed forces.
Leadership; military problems of the United States;
military law; signal corps tactics and technique,
including message center procedure, wire and radio
communications, signal corps photography.

431, 432, 433. Military Science IV.
Prerequisite: 333.
Command and staff; psychological warfare; mobilization;
signal corps tactics and technique, including wire and
radio communication, materiel, signal supply and repair.

Courses in Air Unit

341, 342, 343. Military Science III.
Prerequisite: 213 or extended service in the armed forces.
Leadership; military problems of the United States;
military law, tactics and techniques of the Army Air
Force, including air intelligence, statistical control
methods, and guided missiles.

441, 442, 443. Military Science IV.
Prerequisite: 343
Command and staff; psychological warfare, geopolitics;
leadership; mobilization and demobilization; tactics and
technique of the Army Air Force, including aircraft
maintenance engineering, armament, and meteorology.

Courses in Veterinary Unit
(added in 1948)

151, 152, 153. Military Science I. (0-1-0) Cr. 1 each.
Prerequisite: Classification in Division of Veterinary
Medicine.
Military fundamentals; organization of the army and the
medical department; administration.
251, 252, 253. Military Science II. (0-1-0) Cr. 1 each.
Prerequisite: 153 or service in the armed forces.
Duties of the veterinarian, organization and employment
of the Veterinary Service in the armed forces

351, 352, 353. Military Science III. (0-1-0) Cr. 1 each.
Prerequisite: 253 or extended service in the armed forces.
Subsistence procurement; meat and dairy hygiene.

451, 452, 453. Military Science IV. (0-1-0) Cr. 1 each.
Prerequisite: 353.
Veterinary military preventive medicine; veterinary
medical aspects of atomic warfare; inspection of foods
of animal origin.
APPENDIX J: ARMY ROTC ENROLLMENT AND COMMISSIONING DATA 1942-1970

<table>
<thead>
<tr>
<th>Year</th>
<th>Freshman</th>
<th>Sophomore</th>
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1 Iowa State University, Army ROTC Report of Enrollment, 1942-70. There was no sophomore, junior or senior class from 1943 through 1945 and no sophomore or senior class in 1946.
APPENDIX K: NROTC 1949-50 COURSE DESCRIPTION

Description of Courses

   111. History, traditions, and accomplishments of the Navy.
   112. Organization, functions, and characteristics of the Navy and its components, Naval justice and elements of leadership.
   113. Duties and responsibilities of a deck officer, seamanship; communications.

211, 212, 213. Naval Weapons.
   211. Capabilities and limitations of all types of modern naval weapons.
   212. Basic principles of the employment and control of naval surface and anti-aircraft weapons.
   213. Fire control, fundamentals of operation and employment of radar and sonar; guided missiles.

311, 312, 313. Naval Science.
   311. Navigation instruments and equipment, piloting, elements of navigation, relative movement, radar, loran.
   312. Nautical rules of the road, basic aerology, celestial navigation, and nautical astronomy.
   313. Nautical astronomy, celestial navigation.

313M. Concepts of Military Policy, Power and Principles (for Marine Corps students in lieu of 313).
   Origin, development, and role of U.S. Military Forces, significance of military power, classic principles of war.

411, 412, 413. Naval Science.
   411. Naval Machinery. Theory and construction of typical modern naval engineering installations, properties of steam, internal combustion engines.
   413. Naval Administration and Leadership. Naval law, administration, psychology and technique of leadership, duties and responsibilities of officers.

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1 Iowa State College Catalog, 1949-50, pp. 270-71. All Naval Science courses required three hours of lecture and two hours of drill per week for three hours credit per quarter.
411E. Naval Application of Thermodynamics and Power Generation. For students with credit or classification in M.E. 344 or equivalent.

411M, 412M, 413M.
Prerequisite: Enrollment as a Marine Corps student.

411M. Analysis of American Battles. Analysis of selected battles, principles of war, type operations, development of tactics and techniques.

412M. American Battles and Amphibious Operations. Specialized amphibious warfare, battle planning.

413M. Amphibious Operations. Advanced study in the specialized field of amphibious warfare.
APPENDIX L: NROTC ENROLLMENT AND COMMISSIONING

DATA 1946-1970

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There was little enrollment data available for the first eleven years of NROTC at Iowa State. The information presented from 1946 through 1956 was obtained from the following sources: The Daily, August 28, 1946, p. 1, September 25, 1948, p. 6, October 7, 1950, p. 1; undated history in the NROTC Command History File (probably 1949); Letter from E. T. Seaward, PNS, Iowa State College, dated December 23, 1952 in the NROTC Command History File. The early commissioning data was extracted from several sources in the NROTC Command History File and compared with the list of NROTC graduates in the Iowa State commencement programs.
It is interesting to note that the numbers commissioned for each year from 1950 through 1959 did not match exactly. However the total number commissioned from 1950 to 1959 showed 380 using one source and 381 using another source. Since 1957 the NROTC academic secretary has maintained an annual listing of the number of regular, contract, total enrollment, and number commissioned and is the document that supplied the 1957 to 1970 information.
APPENDIX M: AFROTC 1952-53 COURSE DESCRIPTION

Courses Primarily for Undergraduate Students

141, 142, 143. Air Science I.
Leadership, drill and exercise of command; military organization; military policy of the United States; evolution of warfare; maps and aerial photographs; military psychology; first aid and hygiene; geographical foundation of nation power; military problems; military mobilization and demobilization.

241, 242, 243. Air Science II.
Prerequisite: 143, or service in the armed forces or three years' service in a federally recognized Junior ROTC. Leadership, drill and exercise of command; aerodynamics and aircraft propulsion; navigation; meteorology; applied air power.

341, 342, 343. Air Science III. Administration.
Prerequisite: 243, or extended service in the armed forces.
Leadership, drill and exercise of command; logistics; air operations; air force administration.

344, 345, 346. Air Science III. Communications.
Prerequisite: 243, or extended service in the armed forces.
Leadership, drill and exercise of command; logistics; air operations; air force communications.

347, 348, 349. Air Science III. Armament.
Prerequisite: 243, or one year's service in the armed forces; major in engineering or scientific field.
Air operations; elementary air force supply procedures; military publications; specialized training in armament.

Prerequisite: 243, or one year's service in the armed forces.
Air operations; leadership, drill and exercise of command; elementary air force supply procedures; military publications; specialized training in flight operations.

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1Iowa State College Catalog, 1952-53, pp. 280-281. All Air Science I and II courses required one hour of lecture and two hours of drill. Air Science III and IV had three hours of lecture and two hours of drill.
441, 442, 443. Air Science IV. Administration.
Prerequisite. 343.
Leadership, drill and exercise of command; military administra-
tion; Inspector General; military teaching methods; military law and boards; air force management; career development; air force administration.

444, 445, 446. Air Science IV. Communications.
Prerequisite. 346.
Leadership, drill and exercise of command; military teaching methods; Inspector General; military law and boards; air force management; career development; air force communications.

447, 448, 449. Air Science IV. Armament.
Prerequisite. 349
Leadership, drill and exercise of command; air force inspection systems; military teaching methods; military law and boards; military management; career development; specialized training in armament.

Prerequisite. 353.
Leadership, drill and exercise of command; air force inspection systems; military teaching methods; military law and boards; military management; career development; specialized training in flight operations. Graduates of this course will be required to continue their training, as an officer, at an air force flying training school.
APPENDIX N: APROTC 1953 GENERALIZED CURRICULUM

Description of Courses

Courses Primarily for Undergraduate Students

141, 142, 143. Air Science I.
Introduction to A.F.R.O.T.C. and aviation. Fundamentals of global geography; international tensions and security structures; instruments of national military security; drill--basic military training.

241, 242, 243. Air Science II.
Prerequisite. 143, or over six months' service in the armed forces, or three years' service in a federally recognized Junior R.O.T.C.
Introduction; elements of aerial warfare; careers in the U.S.A.F.: leadership laboratory--cadet non-commissioned; officer training.

341, 342, 343. Air Science III.
Prerequisite. 243, or one year's service in the armed forces.
Introduction to advanced A.F.R.O.T.C.; the air force commander and his staff; problem-solving techniques; the communications process and air force correspondence; military law, courts and boards; applied air science; air force base functions; leadership laboratory.

441, 442, 443. Air Science IV.
Prerequisite. 343.
Critique of summer camp and introduction to Air Science IV; leadership seminar; career guidance; military aspects of world political geography; military aviation and the art of war; briefing for commissioned service; leadership laboratory--cadet wing officer training.

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1Iowa State College Catalog, 1954-55, p. 305. Air Science I and II received one hour of lecture and two hours of drill for one credit. Air Science III and IV involved three hours of lecture and two hours of drill for three hours credit.
### APPENDIX O: AFROTC ENROLLMENT AND COMMISSIONING DATA 1946-1970

<table>
<thead>
<tr>
<th>Year</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
<th>Total</th>
<th>Number commissioned</th>
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It is interesting to note that there is conflicting information in most of the available sources on AFROTC enrollment and commissioning. The information on enrollment maintained in the AFROTC Detachment 250 shows a larger enrollment than the AFROTC Headquarters information. Detachment 250 records are based on the actual number of AFROTC students that attended class the first week. Whereas the AFROTC Headquarters information is based on an October 31st cut off for the number enrolled. Therefore the AFROTC Headquarters information is less since several students had dropped AFROTC by October 31st of each year. Where the information is available the AFROTC Headquarters data was used.

There is also a difference in the number of officers that were commissioned in the Air Force from Iowa State. The only source of Air Force officers graduating from Iowa State from 1948 to 1954 was the Iowa State commencement programs which list the military graduate by name. The commencement program does not take into consideration the cadets that are commissioned at summer camp, and this number probably varies from two or three to as high as five per year. However since no other information is available for the 1948-54 time period the commencement program information is given in this appendix.

From 1955 to 1970 the number of Air Force Officers commissioned from Iowa State is taken from the AFROTC Headquarters information. It is interesting to note that the number of Air Force
officers listed as being commissioned in the Iowa State commencement program was fifty nine less (in 1955 through 1959) than the AFROTC information. This writer knows from first hand experience that the 1955 to 1956 years were the biggest years for commissioning of AFROTC cadets at summer camp. Further, that the 1955 and 1956 years were years the Air Force had a continuing over production of officers and many cadets who had completed AFROTC but not college were told they would not be commissioned, however, after graduation they were finally commissioned. The late commissionees would not appear in the commencement program. After the 1960 time period the information in the University commencement program, AFROTC Headquarters commissioning numbers and the local AFROTC Detachment 250 number of commissioned are more compatible. For the purpose of this dissertation the AFROTC Headquarters commission and enrollment information is used from 1955-70.
APPENDIX P: ARMY ROTC GENERAL MILITARY

SCIENCE CURRICULUM 1964-70

Basic Course, Senior Division ROTC

111, 112, 113. Military Science I.
(1-1) Cr. 1 each.
Leadership; individual weapons and marksmanship;
organization of the Army and ROTC; United States Army and
national security.

211, 212, 213. Military Science II.
(1-2) Cr. 1 each.
Prerequisite. Military Science I or approval of
professor of Military Science.
Leadership; map and aerial photographic reading;
introduction to basic tactics, American military history
and counter-insurgency operations.

Advance Course, Senior Division ROTC

301, 302, 303. Military Science III.
(3-1) Cr. 3 each.
Prerequisite. Military Science I and II or completion
of six weeks' basic training summer camp, approval of
Professor of Military Science.
Leadership; military teaching principles; small unit
tactics and communications; branches of the Army; and
counter-insurgency operations.

401, 402, 403. Military Science IV.
(3-1) Cr. 3 each.
Prerequisite. Military Science III.
Leadership; logistics; military administration; military
law; United States and world affairs; services orientation;
map reading.

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1Iowa State University General Catalog, 1965-67, pp. 354-55.
APPENDIX Q: AFROTC COURSE DESCRIPTION 1964-70

141, 142, 143. World Military Systems
(1-1) Cr. 1 each. Yr.
Causes of present world conflict, the role and relationship of military power to that conflict and the responsibility of an Air Force officer. Factors from which differing political philosophies have evolved. Analysis of the three prime political philosophies which have guided segments of society in the twentieth century. Means that nations develop to pursue their objectives and how they confront each other in the use of these means. Individual military systems with emphasis upon the U.S. Department of Defense and the U.S. Air Force.

(1-1) Cr. 1 each. Yr.
Prerequisite. 143.
World military forces and the political-military issues surrounding the existence of these forces, including the United States Army and the United States Navy, their doctrines, missions and employment concepts; military forces of NATO, CENTO, SEATO, and their role in free world security; and military forces of the USSR Soviet Satellite Armies, and the Chinese Communist Army. Analysis of the trends and implications of world military power.

(3-1) Cr. 3 each. Yr.
Prerequisite. 243.
The nature of war; development of air power in the U.S.; mission and organization of the Defense Department; Air Force concepts, doctrine and employment; astronautics and space operations; and future development of aerospace power.

441, 442, 443. The Professional Officer.
(3-1) Cr. 3 each. Yr.
Prerequisite. 343.
Professionalism, leadership, and management, including the meaning of professionalism, professional responsibilities, the military justice system, leadership theory, functions, and practices, management principles, and functions, problem solving, and management tools, practices and controls.

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1 Iowa State University General Catalog, 1965-67, p. 353.
These courses were introduced in 1964 and have remained basically the same throughout the remainder of the 1960's.