Greetings from the Department Head.

This is the fourth edition of "Castle Computing". It is our way of keeping the communication lines open to our alumni and friends. And we have provided a convenient form for you to keep us appraised of your whereabouts and activities. We really do want to hear from you.

This has been an exciting year. Several very significant events have occurred which directly affect our future. As an example, our BS in Computer Science degree program was accredited by the Computer Science Accreditation Board. Also, as of January 1, 1993, the CIS Department moved from the College of Arts and Sciences to the College of Engineering. This allows greater interaction between engineering projects and computing technology and research. Additionally, we have added a new "electronic studio" for in-class demonstrations of software. And as has been their tradition, our faculty continues to focus on both excellent teaching and a broad spectrum of research projects. Student evaluations and their published research papers and extramural grants attest to their excellence.

There are many other exciting activities documented in this newsletter; we hope you enjoy it. We have enjoyed putting it together. Please keep us advised of your whereabouts and I will very much appreciate some input on the content and format of this publication. Also, please send us information on your activities; we would like to keep other alumni informed of their classmates and fellow alumni. Finally, I want to thank each and every one of you for

your support of the Department. Without your commitment to spread the word about KSU, your contact with future students for CIS at KSU, and your material support, we could not provide a high quality educational experience for students.

Project Choice Students Now Majoring in Computer Science

Four years ago Ewing Kauffman changed the lives of many freshmen students at Westport High School in Kansas City when he promised to fund their college education, job training, or trade school preparation if they graduated with their classmates and avoided drugs and teenage parenthood.

Of the 115 Westport students who completed their high school education this past spring and met those conditions, nine graduates, including the class valedictorian, are enrolled at Kansas State University.

The top student, Xia Sun of 4108 N. Campbell, Kansas City, MO, is now majoring in computer science. She says the program gives students many opportunities that otherwise would be difficult or impossible to obtain.

"I wouldn't have been able to come to school if it weren't for Project Choice", Sun said. "I think the students who are given the chance to participate in the program should work hard and take advantage of it. Education gives you the chance to become the person you want to be."

Another Project Choice student, Mia Strange of 1729 Kansas Ave, Kansas City, MO, is also majoring in computer science.

Our congratulations and hopes for continued success go to these fine students.

Computer Science Program is Accredited

As your recall from our newsletter last year (Castle Computing Vol. 1, Number 3), the Computer Science Accreditation Commission visited CIS at KSU to review our Bachelor of Science program in Computer Science. And it came as no surprise that after intense scrutiny our program is now accredited. Now we are the only accredited BS in Computer Science in the state of Kansas and one of only two Computer Science programs in the Big 8 which are accredited. This documents the high quality of our program and recognizes the value of a Computer Science degree from Kansas State University. For many years, students, faculty, and industry have shown confidence in our program, but now we have documented proof. The visitation team that reviewed the BS/CS program studied the qualifications of our faculty, the content of our courses and curriculum, our computing facilities, and general administrative support for the BS/CS. In their final report, they said "The program leading to the B.S. in Computer Science at Kansas State University has good students and a dedicated faculty." We appreciate the high praise for both students and faculty and rededicate ourselves to excellence in our teaching programs.

CIS Installs Electronic Studio

For many years teachers in the computing sciences lectured in the classroom and left the students to their own devices in developing programs and systems in a computer lab. Today, we realize that interactive sessions with the computing facilities in a laboratory with an instructor present to guide students through tough spots is good learning practice. Gone are the "IBM cards"; in their place are interactive workstations. Present day technology is a collection of X-terminals attached to a Unix server. Thus, CIS has installed 17 X-terminals attached to two Sun Sparc 2 Unix systems in an electronic studio where faculty can demonstrate operating programs in a class/lab environment. Whatever the faculty puts on his/her terminal, the students can see on their terminals. This interactive display gives students the "look and feel" of a specific system under both valid and invalid user control. When they go into the lab by themselves, they are better able to diagnose poor program behavior as well as be more productive with Computer Aided Software Engineering (CASE) packages.

CIS Moves to Engineering

As of January 1, 1993, the Department of Computing and Information Sciences became part of the College of Engineering. After more than two decades of growth and development within the College of Arts and Sciences, the faculty of CIS voted unanimously to move the Department. After several meetings that occurred over five months, a panel of faculty and administrators (consisting of the Provost, the Deans of Engineering and Arts and Sciences, faculty representing the CCOPs of the two colleges, a faculty member representing Faculty Senate, and the heads of departments of CIS and EECE) voted unanimously to support the move.

The BS in Computer Science, the BS in Information Systems, the MS in Computer Science, and the PhD in Computer Science will move intact to the College of Engineering. The BA degrees in Computer Science and in Information Systems will remain in the College of Arts and Sciences, while the CIS courses will still be taught by the CIS Department faculty. Students currently in the program can elect to get their degree in either Engineering or Arts and Sciences. However, all new students will have a degree conferred from the College of Engineer-ing only.

The move was precipitated by the realization that stronger ties were needed between the CIS Department and Engineering Departments to accomplish the following goals. First, the undergraduate curriculum in Computer Science is now accredited and the "problem-solving" nature of undergraduate Engineering education provides a truly essential industry-oriented training for these students. Second, software methodology is becoming an integral part of many engineering products. Third, nationally, computer scientists are being asked to reach out to other disciplines to help solve their computing research and integration problems. This is an "engineering culture".

We leave the College of Arts and Sciences with mixed feelings. It is a great college with many fine departments and excellent faculty. We owe both the College and the Department of Statistics a tremendous debt of gratitude for giving us an environment in which to mature.

Our address will stay the same and we will remain in Nichols Hall. It is only an administrative change, but one that will bring real benefits to our students.

Expanding Our Classroom to a Nation-Wide Audience

Kansas State University is a quality institution on the great plains. In the past that meant our audience consisted of strictly on-campus full-time students. But there are many professionals already in business and industry who need to upgrade their technical computing and software skills. Thus, we conduct a Summer On Campus program which brings computing professionals to campus for five weeks each summer, from 32 AT&T sites across the country. Additionally, we have become a member of the National Technological University (NTU), a consortium of high quality universities which provide graduate level technology courses to 75 major corporations across the USA. The courses are offered on-campus to regular graduate students and then videotaped in an electronic classroom. These tapes are then transmitted via satellite to corporate members of NTU. Communication with the on-campus instructor is via phone, facsimile, and electronic mail. Our first course was a graduate level Data- and Knowledge-based Systems course taught by Dr. Elizabeth Unger. This year we will offer graduate courses in Programming Science, Expert Systems, Data and Knowledge-based Systems, and Software Measurement. If you are interested in upgrading your technical skills, pursuing an MS in Computer Science degree, or wanting to stay abreast of the rapidly changing technology, please give us a call. We can give you information on enrollment procedures.

A Short History of Computing at KSU

Computing essentially started at KSU in 1958 with the installation of an IBM mainframe. The main focus of computing at that time was on programming. Even then there was a debate about where the machine belonged, in Mathematics or in Engineering. In the 1960s, the discipline of Computer Science evolved and central administration realized that this discipline could not be contained in Mathematics. Thus, in 1968, Dr. Bevan, then Vice President for Academic Affairs decided that Computer Science would develop in the College of Arts and Sciences. He also gave the responsibility to develop the Computer Science discipline to the newly formed Department of Statistics because this department had separated from Mathematics and had experienced "growing pains" that were expected in Computer Science as it matured. In 1971, the Computer Science Department was formed as a separate unit in the College of Arts and Sciences. Dr. Harold Sackman from the Rand Corporation, was named the first department head. At that time, baccalaureate degrees and a M.S. degree were transferred to the new department. In 1971, the Computer Science departments at KSU and KU each proposed to start a PhD program in Computer Science. The Board of Regents decreed there would be a joint program. In 1972 Dr. Paul Fisher became the new Department Head. At this time most computing for Computer Science majors was on the mainframe IBM computer, but in the 1970s with the advent of the mini-computer, the Computer Science Department moved more of its computing to this new technology base.

In 1980, the faculty realized the need for a technical computing degree with heavy emphasis on business practices and instituted both a BS and a BA in Information Systems. In 1982, Dr. Virgil Wallentine became Department Head. Through the early part of the 1980s, the enrollment in Computer Science at the undergraduate level quadrupled, from about 150 majors to 600 majors. In 1985, the Department moved from Fairchild Hall to the newly renovated Nichols Hall, our "high-tech" Castle on the Plains (hence the newsletter - "Castle Computing"). In 1986 the Department changed its name to the Department of Computing and Information Sciences to reflect the emphasis on information systems as a central part of the computing discipline. During this same time-period, personal computers with the DOS operating systems and mini-computers with the Unix operating system became the principal computing platforms for CS and IS students.

Now we are in the 90s and our mission is changing. We continue to offer introductory "computing literacy" courses for the whole university, offer solid undergraduate degree programs in Computer Science and Information Systems, offer advanced degrees (MS and PhD) in Computer Science, and conduct research in fundamental areas of computing (programming languages, data and knowledge systems, software engineering, and distributed systems). While Computer Science faculty across the country previously pursued research only in core computing sciences - languages, systems, data bases, software engineering, etc., now our mission is to reach out and solve computing research problems in other disciplines. Additionally, we feel that stronger "outreach" programs are essential. Thus, our Summer On Campus programs are solid and we are part of National Technology University, teaching graduate courses which are beamed through a satellite to companies across the country. Finally, we think it important to expand our degree offerings to include a Master of Software Engineering. It is consistent with our new home in the College of Engineering and valuable to professional engineers and computer scientists in industry who need to be experts in software construction and maintenance.

Nichols Nugget: Why A Castle?

Nichol Hall (originally Nichols Gym) was first constructed as a military drill hall. Having Military Science was a requirement for a land-grant university. Thus the "castle-like" appearance of the building. This is fairly common construction at other land-grant schools as well.
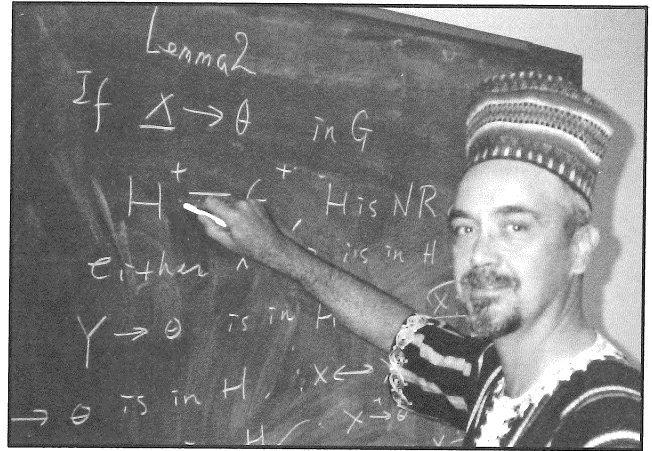
Faculty Profile: Dr. Myron Calhoun

Myron was born in Michigan 'way back in 1941, but received his elementary and secondary education in the Florida public school system, graduating as a National Merit Scholar and Valedictorian of his senior class. In 1959 he entered Graceland College (Iowa), graduating two years later with 78 semester hours, an Associate of Arts degree, and a Gold Seal for scholarship. That fall he entered the University of Kansas (known respectively in Lawrence as "Harvard on the Kaw" and not quite so respectfully in Manhattan as "that mental institution down the river") and, with financial assistance from both Boeing and RCA scholarships, graduated two years later "with highest distinction" and a Bachelor of Science degree in Electrical Engineering. During the summer of 1963, he worked as a Member of the Technical Staff at the Bell Telephone Holmdel Laboratories.

Returning to school that fall with a National Science Foundation Graduate Fellowship, he graduated in 1964 with a Master of Science degree in Electrical Engineering from Colorado State University and, with a National Aeronautics and Space Administration Traineeship, in 1967 with a Doctor of Philosophy from Arizona State University. In his spare time during the summer of 1966 he worked as an Engineer doing undescribable classified things on behalf of the Atomic Energy Commission at the Jackass Flats test site near Las Vegas!

About halfway through his schooling he married his Graceland College sweetheart, Nancy, and they reared a family which eventually included a daughter, Edith (who is now an elementary school teacher in the Kansas City area), a son, Omner (who studied Computer Science/Engineering and now works for the Harris computer Company in Melbourne, Florida), and a second son, Aaron (who thought life was more fun than school but is now an Emergency Medical Technician for an ambulance company on the Pine Ridge Indian reservation in South Dakota). Although she had received her B.S. in Math before they were married, after their children "left the nest", Nancy returned to school and earned another B.S. and then an M.S. degree, both in the CIS Department here at KSU.

After finishing school, Myron went to work at a Research and Development laboratory in California where he helped design and build a computer in which the editor, compiler, and multi-processing/multi-programming operating system were all implemented in hardware-no software need apply! But every year, one of his former classmates who had come to KSU called to ask "When are you going to leave that rat race and come back to the ivy-covered halls of academia?" Finally, Myron succumbed to the inevitable and came to KSU in 1971 (the same year CIS was carved out of the Statistics Department) as a part-time member of both the Electrical Engineering and CIS Departments. Later he converted to full-time CIS, and he's been here ever since ("One of the fixtures", as he put it!) except for the year he taught as a Fulbright scholar in Nigeria, Africa. (But therein lies another whole story by itself which will just have to wait—he was "detained" by the Nigerian authorities "on suspicion of spying"!)

Myron's hobbies include farming, shooting (and reloading to keep the cost down), amateur radio (his call is W0PBV), and emergency preparedness (he is the volunteer Emergency Radio Officer for Riley County). He is currently working to get an amateur radio station operating at the Manhattan Middle School (equipment donations will be greatly accepted). Instead of teaching during the summer ("It's too fast and furious to be any fun!"), Myron likes to get back out into the "real world": in recent summers he has worked at Eglin Air Force Base in Florida; at a computer "think tank" in Texas; and at the Argonne National Laboratory in Illinois. He also does a small amount of consulting, includ-

Myron Calhoun (continued)

ing several stints for attorneys trying to break some crucial computer patents.

Although he dabbled at research awhile after coming to KSU, Myron's real love is teaching in general, and teaching undergraduate students in particular; over the years he has taught some two-thirds of the courses required for the CIS degree. His teaching style includes lots of "real world" examples, and his classroom philosophy of "do it right the first time or else do it again" once caused a student to tell a Dean, who relayed the comment (but not the student's name!) to the whole CIS Department "Dr. Calhoun is a son of a bitch, but he's good and he's fair." Myron's response was that he could live with the first part of the comment as long as the last part was included. In 1990, Myron was given the Stamey Teaching award.

Myron likes to hear from former students, especially those who are now working in industry. Please feel free to contact him via the INTERNET at mac@cis.ksu.edu or by regular letter or telephone, and if you are ever "slumming" in Manhattan, please drop by Nichols 324-B to visit for a few minutes.

The Changing CIS Curriculum

The undergraduate requirements have changed almost yearly since 1979. In 1980-1981 the Information Systems major was introduced, with Kansas State one of the first schools to have such a major within a computer science department. Starting in Fall 1990, the department changed its name from Computer Science to Computing and Information Sciences, and the course designation changed from CMPSC to CIS. Starting this Spring, the majors' designators were changed from CMPSC to CS and INSYS to IS.

Many of the courses have had number changes, with just a few remaining stable. CIS 200, 300, 362 and 580 have kept the same numbers since they were first introduced. The courses which have changed are:

      CIS 207 -> 203 Pascal Language Lab
      CIS 305 -> 350 Assembly Language
      CIS 340/341 -> 540/541 Software Engineering
      CIS 370 -> 570 Theoretical Foundations
      CIS 405 -> 505 -> 605 Programming Languages
      CIS 420 -> 520 Operating Systems
      CIS 560 -> 460 -> 500 Data Structures
      CIS 505 -> 307 -> 407 Assembly Language
      CIS 561 -> 560 Database
      CIS 662 -> 562 -> Advanced COBOL (now deleted)
      CIS 765 -> 567 -> Systems Analysis (now deleted)
      CIS 462 Information Systems (new in Fall 1992)

For the most part, the changes made over the years could be considered "fine-tuning". But we have added courses which we believe will better prepare our graduates. These include CIS 301 Logical Foundations, CIS 492 Computing Ethics, CIS 525 Telecommunications, MATH 510 Discrete Mathematics, ENGL 516 Written Communications for the Sciences, and STAT 410 Probabilistic Systems Modeling. And starting in Fall 1992, students must attain a 'C' or better in all courses required by the department.

The technical electives have changed from a very general grouping of 15 hours to specific requirements for CS and IS. The CS students now must complete an additional nine hours of CIS courses at the 500 level or greater. The IS students take 12 hours from a group of courses designed to support possible future work in one of five career areas.

The Natural Science Electives have become stricter for the CS majors because of the guidelines of our accrediting agency. Those students will be required to take science courses which would be required for a student majoring in a particular science curriculum.