

# Associate of Arts Degree Program In Prosthetics

**Chicago City Junior College - Northwestern University  
Medical School**

**Presentation at the American Orthotics and Prosthetics Association  
National Assembly, November 8, 1964—Hollywood Beach, Florida**

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Prosthetic-Orthotic Education  
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Robert C. Gruman, C.P.O., President, American Orthotics  
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Considerable interest has been generated about the proposed Associate of Arts degree program to be offered by the Chicago City Junior College—Northwestern University Medical School. To fully acquaint readers of the *Orthopedic and Prosthetic Appliance Journal* with this program to date, this article presents the proceedings of the national Assembly in which the degree program was first surveyed. The following text represents the edited introductory remarks and the questions and answers about the degree program.

*Mr. Gruman:* "Before we begin the formal presentation of the Associate of Arts degree program, I would like to comment briefly about it. In September, 1963, the American Board for Certification sponsored a workshop designed to develop recommendations for training personnel in our field. The recommendations that came out of this workshop have indicated to us that it was necessary to prepare training materials and also necessary for us to encourage programs that would provide training to young people desiring to enter the profession.

"Representatives from the American Orthotics and Prosthetics Association (AOPA) and The American Board for Certification (ABC) have met with the administrative personnel of the Chicago City Junior College and Northwestern University and have been instrumental in the planning to date. We feel that a Junior College is an ideal institution in which people may receive a proper training. It is for this reason that we have wholeheartedly supported the accomplishments to date. Now I should like to turn over this meeting to the Chairman of the section, Mr. Ralph Storrs."



*Mr. Storrs:* "Mr. Mike Cestaro, Secretary-Treasurer of AOPA, has asked that I read the following statement concerning the program. He regrets that he is unable to attend this session as previously planned.

"The Board feels that this program, directed toward the training of prosthetists and orthotists, will meet a very definite need in the field of prosthetics and orthotics. In discussing this with the Board, we found general agreement that the Junior College is an ideal institution in which persons may receive training of the type recommended at this workshop."

"My role today is dual, representing Northwestern University as well as the industry. I will try to give you just a brief outline regarding the development of this program. We must all recognize that, as of this date, the industry has not developed a program for bringing young people into our profession. It is generally recognized that the short-term courses at the three Universities were not designed for, or are not providing, the satisfactory number of young people in our field.

"There are many figures on the number of young personnel required each year in our profession. I believe it is reasonable to say that one-half of the facilities in this country could, and would be happy to, employ an interested young person who has the background of a two-year Associate of Arts degree program. I am sure we all recognize how much easier it would be for each and every facility to take a man who has received formal education consisting of general education, science, mathematics, basic laboratory courses and then the technical education, as applied to our field, as opposed to a man you hire off the street and train in a basic apprenticeship.

"So I am certain we can all appreciate the potential of the proposed Associate of Arts degree program."

*Mr. Pachucki:* "The Chicago City Junior College has long favored the plan of expanding its program to include occupational oriented technician type curricula. We have done so in the Health-Science, Business and Engineering Technology areas. The two-year Associate of Arts degree program in prosthetics gives the Chicago City Junior College an opportunity to blend its experiences in health-sciences with that of the engineering technologies to provide the community with this additional, unique educational opportunity.

"The objectives of the curriculum in prosthetics are: 1) to provide professional education for prosthetists who expect to enter directly into this field; 2) to provide the first two years of education for prosthetists who expect to complete a four-year College education; 3) to develop those understandings, skills, values, and attitudes desirable for effective living in a contemporary society by means of well organized programs of general education; 4) to recruit young people in the field of prosthetics; and 5) to partially prepare these young people for national certification.

"By the very nature of the program, the student expects to gain a sufficient background of specialization in this field to become a saleable item on the labor market. The curriculum will include those educational experiences which will provide a rich background in communications, mathematics, science and basic prosthetic concepts. Applications of scientific principles change . . . but the concepts do not.

"I believe the Executive Dean, Mr. Clifford Erickson, summarized well the change taking place in your field as removed from apprenticeship training to an educational program. 'We hope to get out of this a man who will display initiative—someone who would rather stand for his conviction than sit on his aspirations.'"



"The Chicago City Junior College feels, however, that over-specialization is dangerous and the narrow specialist of today may become obsolete tomorrow.

"The United States Department of Labor tells us that a student coming out of high school may, in this age of technological development, change jobs as much as five to six times—prior to this automation revolution it was three times.

"Industry has continually expressed interest in that type of worker who has the potential to grow: In this case, a technician who has acquired formal knowledge of subject matter along with manipulative-mechanical skills in preparation for the job at hand—someone with depth rather than a limited area of specialization.

"Every industry is unique in its method of 'tooling up' to obtain an acceptable end product. These techniques are the result of planning, development, and experience. Industry is willing to provide the experience if the technician has the educational flexibility to participate in the planning and development.

"To offset the specialization, the Chicago City Junior College proposes application. It is felt that by introducing a planned sequence of College level math, science, and laboratory experience, the student will reach a desired level of educational maturity or sophistication. At this point, practical application becomes meaningful. The application that I speak of here is the type that will be offered by the outstanding staff at the Northwestern University Prosthetic-Orthotic Education Center.

"In preparing this curriculum we met with local advisory groups, studied other going and proved programs, visited prosthetic clinics and discussed our aims with certified, qualified personnel, tapped resources at Northwestern and availed ourselves of the breadth and depth of over fifty years of experience in the Chicago City Junior College. We call this our planning period, which started in February, 1964, and ended with a meeting of your national officers, at Northwestern University on October 1. At this meeting, after a period of constructive discussion, the curriculum was adopted.

"Before entering the second phase of the program, which has been designed as a development period, we have to await approval of funds from the Chicago Board of Education and the Vocational Rehabilitation Administration, to complete the educational facilities needed for implementation of this highly specialized, occupational-oriented curriculum.

"The development stage will get under way about the middle of January and run on into August. During this phase: details of the specialized courses of study will be worked out; a laboratory complex will be designed and constructed; materials and equipment will be purchased; and publicity, with a view of recruiting students, will go into effect.

"The third and final phase is one of implementation with students attending their first classes at Southeast Junior College, September, 1965.

"The Southeast Campus of the Chicago City Junior College has an enrollment of 890 full time and 2,057 part time students. This total of 2,947 is made up of college age students and adults with varying interests and needs. To fill these varying educational objectives, this campus offers a program of 236 courses scheduled from 8:00 a.m. to 10:00 p.m. throughout the week.

"In its original context, technical education was deemed *terminal* for those who chose its pursuits. Educators soon realized that the connotation of terminal was not only a stigma but also a deterrent to the status-seeking technician. Some alert educators went far beyond semantics and made an



honest effort to really upgrade the program. They made those changes in the curriculum that would permit a graduate of the program to continue his education while productively employed. *Ours (CCJC-NU) is not a dead-end curriculum—for a dead-end program can only attract dead-end kids.*

"Finally, we would like to round out the technicians' background with an enrichment of selective general education experiences.

"We all recognize that the technician must continually communicate with members of the prosthetic team. Here, ideas and data must be transmitted from doctor, prosthetist, technician, craftsman, and, of course, the patient. Precision with words as well as precision in design and development are expected of the technician. Our program contains three college level courses in communications: 1) English composition; 2) technical report writing; and 3) fundamentals of speech.

"Incidentally, the Chicago City Junior College is made up of eight campuses with a total enrollment of over 33,000 students.

"Of special interest, perhaps, would be a comment about the occupational-oriented programs mentioned previously. The goal here is to produce a highly specialized worker in an area deemed critical by the United States Office of Education; a person with sufficient background in mathematics, engineering, science and general education to be able to assist the engineer or scientist in technical routines associated with development, research, or production.

"The curriculum in prosthetics gives the Chicago City Junior College the opportunity of providing the community with new and advanced educational services that enable our citizens to earn a better living—and live a better life.

"With that, I digress from my formal presentation to discuss the subject matter of the curriculum.

## CURRICULUM IN PROSTHETICS

### FIRST YEAR

English 101 -----	3	Biology 112 -----	4
Mathematics 103 -----	3	Physics 221 -----	4
Biology 111 -----	4	Mathematics 104 -----	3
Prosthetics 101 -----	3	Prosthetics 105 -----	3
Art 143 -----	2	Prosthetics 111 -----	3
Orientation -----	1	Physical Education -----	1
Physical Education -----	1		
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### SECOND YEAR

Physics 215 CCJC -----	3	English 107 -----	2
*Prosthetics 201 -----	4	Speech 101 -----	2
*Prosthetics 203 -----	3		
*Prosthetics 205 -----	3	CCJC	
*Prosthetics 207 -----	4	*Prosthetics 209 -----	4
*Psychology of Disabled -----	1	*Prosthetics 211 -----	4
		*Prosthetics 213 -----	4
		*Business Management -----	1
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\* To be offered at Northwestern University.

## QUESTION AND ANSWER PERIOD

"We will now entertain questions from the floor concerning the program."

*Q: "How will the program be financed?"*

Mr. Pachucki:

A: "Northwestern students who are residents and taxpayers in Chicago pay a general service fee which amounts to \$10.00 and also laboratory fees. Students living in the State of Illinois are assessed about \$9.00 . . . The other half of the tuition is paid by the State of Illinois. Fees for non-residents of the State of Illinois would be about \$365.00 or, shall we say, \$400.00. Dr. Arnold, would you please comment on the Northwestern costs?"

Dr. Arnold:

"The A.A. program will be jointly financed by the Vocational Rehabilitation Administration, Chicago City Junior College, and Northwestern University."

*Q: "As I understand it, this course with two years of study at Northwestern, would be equal to the first two years at another University except that you are placing a little more stress on prosthetics. Would this program supplement the New York University program?"*

Dr. Arnold:

A: "Yes, the New York University program is a four year degree program. A student could receive two years of education in the Chicago City Junior College program and then, if he wants to go on for his Baccalaureate degree, he can do so at another four-year University such as NYU. The Northwestern University program offers a flexibility in that it can be considered a terminal or a transfer program of education."

*Q: "Would there be any provision for students who are not able to furnish their living costs?"*

Dr. Arnold:

A: "We feel that students in the Chicago Metropolitan area will not be concerned with additional living costs. Application has been made to the Vocational Rehabilitation Administration for financial assistance for the non-Chicago students."

*Q: "Will this program partially prepare men for the ABC exams?"*

Dr. Arnold:

A: "The American Board for Certification has not given any ruling on this, but it is under consideration and, as has been stated, they have cooperated with us on the development of the program and curriculum."

Dr. Arnold:

"In conclusion, every available means should be used to recruit young competent people into our highly specialized industry, which is little understood by the public."

"Private industry, federal, state, and city agencies must provide the necessary funds to develop and implement this two-year educational program. Both general education and specialized education should join forces for maximum individual development and preparation for work. Finally, quality prosthetic-orthotic educational programs can only be developed when a new program for teacher preparation is implemented. Thank you."