



scheduled for June 26. Of the three alternatives, she believed that the second alternative was preferred. This would allow any course under the sponsorship of the Department of Career and Vocational Education plus computer science to count toward fulfilling this graduation requirement. She said that most students were taking these courses at present.

Dr. Shoenberg asked about the state's rationale for the inclusion of this requirement in terms of the education of students. Dr. Frank Carricato, director of career and vocational education, replied that he had tried to find out. However, the state was not preparing guidelines until the state Board took final action. State officials thought that the curriculum committee of the high school study might deal with the guidelines. He also asked about the purpose of the requirement and was told state discussion had centered around whether there was a need to assure that all students had exposure to this equal of the curriculum equal to the exposure to the fine arts. Dr. Carricato stated that his staff felt the requirement was reasonable because the practical arts did offer youngsters the opportunity to achieve a well-rounded education. The practical arts presented youngsters opportunities to acquire skills and attitudes that they did not receive in all other parts of the curriculum. They hoped that their courses were teaching youngsters functional living in a very complex society. Students were learning to be producers and to enter the job market as well as learning about consumer purchasing, budgeting, etc. He pointed out that in the practical arts students had an opportunity to apply mathematical and science concepts. Dr. Carricato explained that the requirement would be cost effective because so many youngsters were already enrolled in a practical arts or computer science courses. They might not have to add any teachers over the next four years to meet this requirement. He felt that this gave the practical arts a recognition that it was an equal among its peers in the academics and other parts of the curriculum.

Dr. Shoenberg stated that it was highly unlikely that the curriculum subcommittee would be reconvened to develop guidelines for the practical arts. He said it was important that the Board understand what the rationale would be for including these courses before it took action. He could personally come up with significant justifications for this kind of requirement, but he was not very comfortable with the courses to meet this requirement. He would not favor a broad range of courses. He recalled that the rationale for the fine arts requirement was to have, within the curriculum, the requirement to have courses explore the world that was not in the other graduation requirements. He could see the practical arts requirement as representing another way. He would have trouble with a first year typing course, computer science, or practical living as representing another way of exploring the world. He said they needed to remember they were talking about a first-year introductory course for most students which would not involve building houses or working on automobiles. He would feel comfortable with courses involving students in a hands-on experience in doing something with their hands which ended with the creation of a product.

Dr. Cronin explained that he had a problem with the word "any" in relation to such courses as typing 1A and B. In the fine arts they had added theory, history, and background to some courses. For example, in business education he noted courses such as business management and business law which seemed to be of that broader conceptual framework than shorthand. He had found a flaw in each one of the three alternatives and suggested putting an asterisk on certain courses and steering students toward those as the first level for all students.

Dr. Carricato said that the state might not develop guidelines and they might have to develop local guidelines to select the core of courses. This might cause the shifting of staff because students would shift into the narrower core. The skills and certification of the teachers might not match the shifting of student interest. In the area of vocational education, teachers had more narrowly defined certification. An auto mechanics instructor would not be teaching a more general course. They would not have the broad preparation of a social studies teacher, for example.

Miss DUBY indicated that she had supported the fine arts requirement because they had a specific reason for that graduation requirement. She felt that adding a graduation requirement was a major consideration because it affected all students. Now they were given the practical arts requirement, and they were trying to write the rationale for it. She could understand the concern of Board members that it be worthwhile for students to take these courses. On the other hand, if the only rationale was that these courses were worthwhile, she would favor having the broad range of courses and let students have a choice. She would rather give students the full spectrum. She did not think it was fair to students to say that the county board would probably not have adopted this, but since it was there, only these courses would be good for a certain reason and you would have to have that to graduate. She would rather select the first or second alternative.

Mr. Ewing agreed with Miss DUBY. On the other hand, it was important for them to be able to agree on some justifications of an educational kind as to the requirement. They had to find a way to state what they believed to be the educational benefits. He pointed out that this was a discussion item and suggested that when they returned to the item they have a listing of the rationale either from the state or the staff. In this way students and parents would have an understanding of the reason for the requirement.

Mrs. SLYE asked about an implicit contradiction in saying in the second paragraph on the first page that the state department of education had interpreted the requirement to include business education and cooperative education but probably to exclude career education and then to include career education in Option 2. Dr. Carricato explained that the state had said business education and cooperative education were vocational. It was his understanding that the state was evasive about career education. Dr. Martin added that they had received contradictory information from the state. The state Board

would be asked for clarification on issues such as career education. Dr. Cody explained that part of the problem was that MCPS did not use the same labels as other places. If he had a preference, it would be for the second option. He thought practical arts courses should be linked to some type of work; however, he would want to go beyond manual work. For example, the executive intern program taught a youngster about gainful employment. He would lean toward a definition of courses that were identified and could be related to some type of job or work.

Re: PRESENTATION ON HEAD START MULTICULTURAL  
PROJECT

Mrs. Eileen Levi, director of Head Start, reported that in 1971 1.5 percent of the children in Head Start were Asian, and in 1985 this figure was 11.5 percent. Dr. Andre Leyva, project coordinator, said that three video tapes were produced, one dealing with working with the children in the classroom in a multicultural setting, the second focused on working with multicultural parents, and the third was a field trip to Wolf Trap.

Board members viewed the first video tape. Dr. Shoenberg asked about the school day for the children, and Mrs. Levi replied that they attended school from 10 to 1 four days a week with the parents coming every other day. Mrs. Praisner asked whether this was the only multicultural Head Start class, and Mrs. Levi explained they also had another multicultural class which was Hispanic. She explained that they hoped the program would continue but the funding was for only one year. On behalf of the Board, Dr. Shoenberg thanked the students for their participation in the video tape.

Re: RECOMMENDED COURSES FOR MEETING THE NEW  
HIGH SCHOOL PRACTICAL ARTS GRADUATION  
REQUIREMENTS (CONTINUED)

Dr. Carricato presented Board members with copies of the Goals of Education and called attention to the section on career development. This really was saying that the process of instruction in vocational education promoted an opportunity to develop knowledge and appreciation of skills and abilities. It was his fear that they would narrow this down and lose the opportunity in their industrial arts classes which in the process of instruction prepared students to use the knowledge for future career selection. In homemaking courses they were teaching important skills and attitudes about living in a complex society. He felt that the process of developing skills, knowledge, and attitudes was far more important than work-oriented outcomes.

Dr. Shoenberg commented that he was with Dr. Carricato until he made his last statement, but he did not think the career development rationale fit that last statement. Dr. Martin called attention to "intellectual development" in the Goals and stated that the items listed there were characteristic of career and vocational education. Dr. Shoenberg thought they would link any course to these items. If

they were going to have a specific requirement of practical arts, it needed some special justification of its own, not a generalized justification. He suggested that whichever point of view they decided to take, they needed to have a very clear rationale so they could explain to parents and students why they had this requirement. He indicated that before they looked at any set of courses, they had to have the rationale for the requirement.

Mrs. DiFonzo stated that she was very taken with Miss Duby's remarks. She did not know what the state's justification was, but there was a considerable body of knowledge, skills, and expertise found in the practical arts. However, many students went through the Montgomery County Public Schools without experiencing any course that would introduce them to the other level of practical arts. She did not know that she would have voted for this, but she certainly could make a case for this requirement. She said that she would tend to agree with Miss Duby about the broad spectrum of allowing students to choose.

Mrs. Slye noted that in the memo there were certain assumptions about the class of 1983 being a typical group. However, they had changed the picture for high school students in that they had added an honors program, increased graduation requirements, and were considering a certificate of merit. She thought they needed to give careful consideration to the availability of these courses and how they would fit into the students' timeframe. She agreed with Mrs. DiFonzo that there was a rationale that could be developed for this requirement, and she would hate to have it shunted aside as the last thing one had to take in order to graduate. They had to think about the scheduling that would facilitate this additional requirement.

Dr. Cronin commented that if students took these extra courses as part of the seven-period day the record should show that the Board did not introduce the seven-period day to do a throwaway of basket weaving and other types of courses. Therefore, they might end up seeing a growth of career and vocational education courses. Dr. Pitt added in regard to the seven-period day that the kinds of courses being taken were the more difficult ones.

Mr. Ewing stated that the estimates speaking to resources needed were of some concern because they did not have money in the budget for this course requirement. If the requirement took effect next fall, they would have an increase in enrollment in that area which might be offset by some decreases elsewhere. He asked whether those considerations entered into the estimate of resources needed. Dr. Pitt replied that they had taken a look at this. At this point they did not see the requirement as being a major cost item, but it was impossible to predict exactly what would happen. He pointed out that many students now took at least one course in this area.

Mrs. Praisner said she would agree with Mrs. DiFonzo, Miss Duby, and Mrs. Slye as far as their interpretation of the direction because

they could develop a rationale that was a valid one for the requirement. This could be broadly defined under the second proposal, and she thought they could deal with the semantics of what some school systems called career education and whether this fit the requirements. She was concerned, however, about students seeing this as an opportunity to take more computer courses and just computers. This might cause them to be overloaded in the computer area which would cause a problem with scheduling. Dr. Martin agreed that they would have to watch this. They had on the drawing board six semester courses, and two of the courses would be attractive to the student who wanted to learn just something about computers. Two now being implemented required more of a commitment from students.

Dr. Carricato reported that they had made a vigorous effort in the past year to incorporate the use of computer applications in all of their vocational and practical arts credits. They had trained over 125 teachers in workshops on how to use personal computers, and they already owned 55 personal computers and planned to buy 30 or 40 more. Dr. Shoenberg said they needed some kind of rationale for what they were doing to let the teachers know what it was they expected to happen in those courses. With the fine arts requirement, they had a specific rationale and instruction in those courses would be carried on in a particular way. It might be that they did not want to narrow the courses that much, but they could not talk about process definition without talking about a particular process of instruction in those courses. Mrs. Praisner disagreed and said the message to the teachers was developed when the courses were approved for a course of study. Dr. Shoenberg recalled that they had talked about the need to have some alteration in some arts courses so that they fit that rationale. In this case they did not have a rationale and were going to have to develop a rationale in order to have some expectation for what the courses were as far as what students did and how they were taught. He suggested there was a need to understand these courses in a way that was parallel to the way in which they understood the arts requirement. Dr. Cronin was not sure they needed to do that because they were going far beyond what seemed to be intended by the state. In regard to staffing and computer courses, he asked whether they had a general policy to decide to hire the computer teachers to cover the demand or to cap the enrollment. Dr. Pitt explained that if a course was in the program it would be provided for the youngsters. If they found that thousands more students were asking for this program, they would set some criteria for getting into the program until they could adapt to meet the need.

Dr. Floyd remarked that in discussions of this kind they needed to keep in mind that there was a distinction between developing and having a set of goals for a course which was available if someone elected to take it, and a requirement for a student to take the course. They needed to come to some closure on the latter with a clear message to both students and parents. The forerunner for that message could be the state requirement, but that ought not to be all. They ought to be able to define this and describe it in terms of benefits for the students.

Miss Duby thought that they would not know whether they needed to look at course content until they decided on their rationale. If they all agreed to a certain rationale for why students should be taking these courses and if there were questions about some courses, then they would have to go back. They might find that the rationale was to have general exposure to the subject matter which might be quite different. If they were bringing students into these courses who might not normally elect to take them, they might have to make some changes accordingly to make the courses relevant for everyone. Mr. Ewing underscored Dr. Floyd's remarks about the distinction between a course objective and a requirement for graduation. Dr. Shoenberg asked whether they could say they had not had a chance to explore the practical arts fully and not require it for the class of 1989 until the last two years of high school. Dr. Martin replied that they had never done this, but the Board could say that this was what they planned and take a later action. She did think that they needed something to get the requirement in place. Dr. Pitt thought it would be a difficult position to put students in. Dr. Shoenberg pointed out that students had already made their selections for next year and very few would have known of this requirement. Dr. Pitt thought that a good number of students were aware of this requirement. Miss Duby asked whether they would give credits to students taking these courses in ninth grade before the Board took action on these courses. Dr. Pitt thought they would have to under those circumstances.

Re: CERTIFICATE OF MERIT

Dr. Cronin moved and Miss Duby seconded the following:

WHEREAS, The Montgomery County Board of Education would like to encourage as many high school students as possible to pursue more challenging programs and to reward students who successfully pursue more challenging programs; and

WHEREAS, The State Board of Education is expected to give final approval on June 26 to the Maryland High School Certificate of Merit to students who successfully complete 17 specified core credits, earn at least 12 credits in advanced courses, and obtain at least a 2.6 cumulative grade-point average on a 4.0 scale; and

WHEREAS, The Certificate of Merit will be awarded beginning with the graduating class of 1989; and

WHEREAS, The High School Certificate of Merit is to be awarded in addition to the High School Diploma; and

WHEREAS, Guidelines concerning the identification of advanced courses have been provided by the State Department of Education; and

WHEREAS, The Montgomery County Board of Education with the advice of the superintendent has the responsibility to effect the requirements for earning the Certificate of Merit; now therefore be it

RESOLVED, That students in the graduating class of 1989 and beyond may earn the Certificate of Merit upon satisfaction of specified requirements in addition to the High School Diploma; and be it further

RESOLVED, That the approved courses to meet the requirement for earning at least 12 credits in advanced courses for the Certificate of Merit be as follows (an asterisk indicates that the course is offered in the MCPS Honors Program):

#### ART

Studio Art 1A 6105	Ceramics/Sculpture 2B 6393
Studio Art 1B 6106	Ceramics/Sculpture 3A 6385
Studio Art 2A 6205	Ceramics/Sculpture 3B 6388
Studio Art 2B 6206	Visual Art Center (TP) A 6490
Studio Art 3A 6305	Visual Art Center (DP) A 6492
Studio Art 3B 6306	Visual Art Center (TP) B 6491
Advanced Studio A 6313	Visual Art Center (DP) B 6493
Advanced Studio B 6314	Studio Art AP A 6482
Commercial Art 2A 6403	Studio Art AP B 6483
Commercial Art 2B 6413	Studio Art AP (DP) A 6484
Ceramics/Sculpture 2A 6383	Studio Art AP (DP) B 6485

#### BUSINESS EDUCATION

Data Processing (TP) A 4115  
Data Processing (TP) B 4116

#### CAREER EDUCATION

Executive High School  
Internship Program 2325

#### COMPUTER SCIENCE

Computer Programming for Problem Solving 2962	Computer Science AP (DP) A 2965
Pascal 2964	Computer Science AP (DP) B 2966

#### DANCE

Summer School for the Performing  
Arts: Advanced Dance 6917

#### DRAMA/THEATRE

Theatre 2 6911	Play Directing 6914
Advanced Acting 6912	Summer School for the Performing Arts: Advanced Acting 5916
Stage Design 6913	

#### ENGLISH LANGUAGE ARTS

\*Intro. to High School Eng. Narrative/Drama as Lit. 3, 1457

Honors 1471  
\*Language/Writing Workshop 1  
Honors 1470  
\*Narrative/Drama as Lit.1  
Honors 1472  
\*Language/Writing Workshop 2  
Honors 1477  
Essay/Lyric 1, 1454  
\*Essay/Lyric 1 Honors 1474  
Narrative/Drama as Lit.2, 1453  
\*Narrative/Drama as Lit. 2,  
Honors 1473  
Essay/Lyric 2, 1455  
\*Essay/Lyric 2 Honors 1475

\*Narrative/Drama as Lit. 3  
Honors 1476  
\*English AP A 1017  
\*English AP B 1018  
Informative & Argumentative  
Speaking 1461  
Oral Interpretation and  
Media Study 1462  
Techniques of Adv. Journal. 1152  
Publications Editing, Layout &  
Business Management 1153  
Advanced Composition A 1130  
Advanced Composition B 1135

#### FOREIGN LANGUAGES

Chinese 2A 1873  
French 2A 1612  
German 2A 1962  
Hebrew 2A 1893  
Italian 2A 1983  
Japanese 2A 1833  
Russian 2A 1853  
Spanish 2A 1712  
Chinese 2B 1874  
French 2B 1622  
German 2B 1972  
Hebrew 2B 1894  
Italian 2B 1984  
Japanese 2B 1834  
Russian 2B 1854  
Spanish 2B 1722  
Chinese 3A 1875  
\*Chinese 3A Honors 1925  
French 3A 1613  
\*French 3A Honors 1633  
German 3A 1963  
\*German 3A Honors 1977  
Hebrew 3A 1895  
\*Hebrew 3A Honors 1935  
Italian 3A 1985  
\*Italian 3A Honors 1989  
Japanese 3A 1835  
\*Japanese 3A Honors 1839  
Russian 3A 1855  
\*Russian 3A Honors 1846  
Spanish 3A 1713  
\*Spanish 3A Honors 1733  
Chinese 3B 1876  
\*Chinese 3B Honors 1926  
French 3B 1623

German 4A 1964  
\*German 4A Honors 1978  
Hebrew 4A 1897  
\*Hebrew 4A Honors 1937  
Italian 4A 1987  
\*Italian 4A Honors 1991  
Japanese 4A 1837  
\*Japanese 4A Honors 1841  
Russian 4A 1857  
\*Russian 4A Honors 1848  
Spanish 4A 1714  
\*Spanish 4A Honors 1734  
Chinese 4B 1878  
\*Chinese 4B Honors 1928  
French 4B 1624  
\*French 4B Honors 1644  
German 4B 1974  
\*German 4B Honors 1980  
Hebrew 4B 1898  
\*Hebrew 4B Honors 1938  
Italian 4B 1988  
\*Italian 4B Honors 1992  
Japanese 4B 1838  
\*Japanese 4B Honors 1842  
Russian 4B 1858  
\*Russian 4B Honors 1849  
Spanish 4B 1724  
\*Spanish 4B Honors 1744  
\*French 5A 1615  
\*German 5A 1965  
\*Spanish 5A 1715  
\*French 5B 1625  
\*German 5B 1975  
\*Spanish 5B 1725  
\*French 6A 1616

*French 3B Honors 1643	*German 6A 1966
German 3B 1973	*Spanish 6A 1716
*German 3B Honors 1979	*French 6B 1626
Hebrew 3B 1896	*German 6B 1976
*Hebrew 3B Honors 1936	*Spanish 6B 1726
Italian 3B 1986	Latin 2A 1812
*Italian 3B Honors 1990	Latin 2B 1822
Japanese 3B 1836	Latin 3A 1813
*Japanese 3B Honors 1840	*Latin 3A Honors 1815
Russian 3B 1856	Latin 3B 1823
*Russian 3B Honors 1847	*Latin 3B Honors 1825
Spanish 3B 1723	Latin 4A 1814
*Spanish 3B Honors 1743	*Latin 4A Honors 1816
Chinese 4A 1877	Latin 4B 1824
*Chinese 4A Honors 1927	*Latin 4B Honors 1826
French 4A 1614	
*French 4A Honors 1634	

#### HOME ECONOMICS

Child Development Lab. 2A 4754	Child Dev. Intern or Aide A 4764
Child Develop. Lab 2A (DP) 4759	Child Dev. Intern or Aide B 4763
Child Development Lab. 2B 4755	Child Dev. Int.or Aide A(DP)4771
Child Dev. Lab. 2B (DP) 4761	Child Dev. Int.or Aide B(DP)4772

#### INDUSTRIAL EDUCATION

Design, Illustrating, Drafting Technology Program	
Design, Illustrating 2A (DP) 5816	Design, Illustrating 2A (TP) 5106
Design, Illustrating 2B (DP) 5817	Design, Illustrating 2B (TP) 5107
Electronic Technology Program	
Electronic Tech. 2A (TP) 5116	Electronic Tech. 2B (TP) 5116
Drawing, Architectural 2A 7048	Drawing, Architectural 3A 7056
Drawing, Architectural 2B 7049	Drawing, Architectural 3B 7057
Drawing, Mechanical 2A 7032	Drawing, Mechanical 3A 7054
Drawing, Mechanical 2B 7033	Drawing, Mechanical 3B 7055
Electricity/Electronics 2A 7052	Electricity/Electronics 3A 7059
Electricity/Electronics 2B 7053	Electricity/Electronics 3B 7060

#### MATHEMATICS/COMPUTER SCIENCE/SCIENCE MAGNET PROGRAM

Montgomery Blair High School Magnet Mathematics Program

- \*Magnet Geometry A 3038
- \*Magnet Geometry B 3039
- \*Magnet Algebra 2/Trigonometry/Elementary Functions A 3041
- \*Magnet Algebra 2/Trigonometry/Elementary Functions B 3042

Montgomery Blair High School Magnet Computer Science Program

- \*Problem Solving-Programming and Applications Software 2952
- \*Hardware Concepts and Intro. to Programming 2951

Interdisciplinary Seminar-Sequence

- \*Probability & Statistics for Computer Science/Math/Science 2971
- \*Research & Experimentation Techniques for Problem Solving 1 2970

Montgomery Blair High School Magnet Science Program

- \*Advanced Science 1 - Physics 3531

\*Advanced Science 2 - Chemistry 3532

#### MATHEMATICS

Algebra 1A 3111	Trigonometry 3411
Algebra 1B 3112	Advanced Algebra 3412
Geometry A 3201	Probability and Statistics 3413
*Geometry A Honors 3203	*Elementary Functions 3421
Geometry B 3202	*Analytic Geometry 3422
*Geometry B Honors 3204	*Calculus A 3491
Algebra 2A 3301	*Calculus B 3492
Algebra 2B 3302	
*Algebra 2 with Trigonometry A 3304	
*Algebra 2 with Trigonometry B 3305	

#### MUSIC, CHORAL

Chorus 3A 6731	Chamber Singers A 6741
Chorus 3B 6732	Chamber Singers B 6742
*Summer School for the Performing Arts: Advanced Vocal Music 6919	

#### MUSIC, GENERAL

Music Theory & Comp. 2A 6555	Music Theory & Comp. 2B 6556
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#### MUSIC, INSTRUMENTAL

Concert Band A 6821	Jazz Ensemble A 6871
Concert Band B 6822	Jazz Ensemble B 6872
Symphonic Band A 6826	Concert Orchestra A 6851
Symphonic Band B 6827	Concert Orchestra B 6852
*Summer School for the Performing Arts: Advanced Music 6918	Symphonic Orchestra A 6866
	Symphonic Orchestra B 6867

#### SCIENCE

*Lab. Science A Honors 3581	*Chemistry AP A 3741
*Lab. Science B Honors 3582	*Chemistry AP B 3742
*Anatomy and Physiology A 3761	*Chemistry AP (DP) A 3751
*Anatomy and Physiology B 3762	*Chemistry AP (DP) B 3752
*Biology 1A Honors 3621	Physics 1A 3831
*Biology 1B Honors 3622	*Physics 1A Honors 3821
*Biology AP A 3641	Physics 1B 3822
*Biology AP B 3642	*Physics 1B Honors 3822
*Biology AP (DP) A 3651	*Physics AP A 3841
*Biology AP (DP) B 3652	*Physics AP B 3842
Chemistry 1A 3721	Internship-Science A 3511
*Chemistry 1A Honors 3711	Internship-Science B 3512
Chemistry 1B 3722	Internship-Science (DP) A 3521
*Chemistry 1B Honors 3712	Internship-Science (DP) B 3522

SOCIAL STUDIES

*National, State & Local Govt. Honors 2127	European History B 2215 European History 2212
*U.S. History 1 Honors 2126	Eastern Asia 2218
*U.S. History 2 Honors 2128	The Middle East 2226
*Contemporary Issues Honors 2129	Prob. of the 20th Century A 2302
*U.S. History, AP A 2114	Prob. of the 20th Century B 2321
*U.S. History, AP B 2124	Economics 2303
Black Experience in A	