WYOMISSING
POLYTECHNIC
INSTITUTE
A CO-OPERATIVE TECHNICAL INSTITUTE
AND A JUNIOR ENGINEERING COLLEGE

CATALOG
1939 - - - 1940

WYOMISSING
PENNSYLVANIA
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D. BROOKS WHITEHURST

GEORGE O. YOUNG
M.E., Cornell University

President of the Institute
Instructor in Surveying and Mechanics
Instructor in Electricity
Instructor in Engineering, Drawing and Descriptive Geometry
Instructor in Shop Theory and Mechanics
Director of Athletics
Instructor in English
Instructor in Chemistry and Mathematics
Instructor in Chemistry
Instructor in Economics
Instructor in Physics and Electricity
Librarian
Instructor in Metallurgy
Instructor in Heat Engines and Mathematics
Instructor in Metallurgy
Instructor in Textile Fibers
Instructor in Physics
Instructor in Applied Mathematics, Shop Theory, and Knitting Machinery
Instructor in Kinematics and Machine Design
GENERAL INFORMATION

HISTORY AND PURPOSE

The Wyomissing Polytechnic Institute, originally the Educational Department of the Textile Machine Works, was founded in September, 1927, by Ferdinand Thun and Henry Janssen, practical and successful manufacturers.

The purpose of the new school was to supplement the shop training of employees in the Wyomissing Industries, comprising the Textile Machine Works and Foundry, the Berkshire Knitting Mills and the Narrow Fabric Company, with technical knowledge of modern industrial practices, thereby furnishing a supply of man-power capable of meeting both the theoretical and practical problems of their companies.

The Institution became the Wyomissing Trade School, February 1, 1929; it was moved from the plant to a building of its own, August 29, 1930; it became the Wyomissing Polytechnic Institute, March 6, 1933, when it received its charter from the State of Pennsylvania. At that time a Board of Trustees was created to supervise its activities.

The plan of operation gives the student a combination of practical experience and theory, preparing him well to cope with the problems with which he will be faced in industry. It is a school of the Cincinnati type, wherein the student alternates periodically between shop and class room. At Wyomissing the periods are four weeks long, thus assuring close co-ordination of theory and practice. The plan makes possible the application of the "Earn as you learn" policy, for the student, particularly if he lives at home, is able to support himself with his earnings in the shop. The alternating continues for two and one-half years, at the end of which he turns to the shops for continuous practical application to complete his training program.
By 1932 the founders of the school, who established it for the exclusive use of the Wyomissing Industries, were well satisfied with the results and offered the use of the facilities of the Institute to all industries or individuals who might benefit thereby. The effect was an expansion in enrollment and curriculum for many industries, steel mills, chemical firms, public utilities, foundries, and machine shops, from Reading and elsewhere sent groups of young men for training. To better prepare this more diversified student body, additional courses in engineering, science and economics were placed in the curriculum. The program has been designed and the courses are conducted so that the graduate will continue in industry with a solid foundation in the technical and economic phases of production as well as with manipulative skill and definite ability along some one line of work, realizing the possibilities for development and service in his chosen life’s work.

In 1933, the trustees of the Institute, recognizing the educational opportunities of the school and wishing to extend its scope, created a second department, the Junior Engineering College, naming the original, for the purpose of distinction, the Technical Institute.

Students who elect the Junior College course obtain the first two years of instruction necessary toward a degree in engineering and can then transfer to the four-year engineering college of their choice where they can take the remaining two years of study.

In order to assure the graduate proper recognition of his credits upon transferring, the trustees of the Institute applied to the State Council of Education of the Commonwealth of Pennsylvania for recognition as an accredited junior college. Such recognition was granted April 12, 1935.

With the adoption of the Junior Engineering College program, the founders of the Institute definitely changed the character of the school to that of a non-private institution by having it incorporated in Pennsylvania as a corporation of the first class. The charter, with the names of Ferdinand Thun, Henry Janssen, Dr. John E. Livingood, Hanns Gramm and Arthur C. Harper as incorporators, was issued March 6, 1933.

LOCATION

The Wyomissing Polytechnic Institute is located in Wyomissing, Pennsylvania, a beautiful suburb of Reading. Adjacent to the school are the extensive shops of the Textile Machine Works, America’s largest manufacturers of full-fashioned knitting machinery; the Foundry of the Textile Machine Works, probably the largest single foundry in the world; the Berkshire Knitting Mills, the world’s largest manufacturers of full-fashioned hosiery; and the Narrow Fabric Company, manufacturers of diversified manufactured goods. This group of industries, known as the Wyomissing Industries, privately owned, are available as practice laboratories for the Institute.

The city of Reading nearby, with a population of well over one hundred thousand, is a manufacturing, railroad, and agricultural center, thirty-eight miles from Allentown, fifty-six from Harrisburg and from Philadelphia, and about one hundred and twenty-live from New York City. Industry is highly diversified, and from these different industries most of the co-operative students are enrolled.

The community is accommodated by the Reading and Pennsylvania railroads and is directly connected by excellent highways with all large eastern centers. In addition, nearby is the very modern and excellently maintained municipal airport of the city of Reading.

ADMISSIONS

The Institute admits new students at the middle of the school year as well as at the beginning. Because of the co-operative nature of the program, prospective students may enter at either of two dates, at the beginning of the school year, Monday, August
28th, with Section "A," or four weeks later, Monday, September 25th, with Section "B." Likewise, at the middle of the school year new students may enter Monday, January 29, 1940, with Section "A," or four weeks later, Monday, February 26th, with Section "B."

Candidates for admission are requested to visit the Institute for a personal interview as far in advance of expected entrance as practicable. High-school students planning to enter the Institute upon completion of their preparatory programs should keep in contact with the President in order that they will be properly advised on the selection of their preparatory courses.

Requirements for admission to the different departments of the Institute can be found on pages 29 and 46 of this catalog.

FINANCIAL OBLIGATIONS

THE Trustees of the Wyomissing Polytechnic Institute reserve the right to amend at any time the regulations concerning fees, such amendments to pertain to students already enrolled as well as to new students.

MATRICULATION FEE—A matriculation fee of $5.00 must be paid by all new students when registering. This fee is not, in any case, returnable.

TUITION FEE IN THE TECHNICAL INSTITUTE—A tuition fee of $85.00 a term, whether paid by student, parent, or employer, is payable by Friday of the first week of the term.

TUITION FEE IN THE JUNIOR ENGINEERING COLLEGE—A tuition fee of $450.00 for the two-year program is divided equally between the two years, $225.00 in each. Since there are two terms in the first year's work, the annual fee is payable in two equal term fees of $112.50; during the second year, however, when there are four terms, the annual fee is payable in four equal term fees of $56.25. The tuition fee is due by Friday of the first week of the term. The Institute will permit delayed payment only in exceptional cases.
LABORATORY FEE—A breakage and laboratory fee of $5.00 is payable by all students at the beginning of each term to cover loss, damage, or breakage of Institute property, and to cover the cost of laboratory materials.

ACTIVITY FEE—An annual fee of $5.00 is payable at the beginning of the school year by each student to meet the expenses of athletic and musical activities of the student body. The fee also includes admission to the various student dances held during the school year.

EXPENSES

In addition to his fees, a student will have other expenses to meet. The necessary expenditures, however, have been reduced to the minimum.

Each student will have to provide himself with a set of drawing instruments and drawing supplies which should not at present cost him more than $12.50. This expenditure is made only at the beginning of the first term.

Furthermore, he will have books and supplies to purchase, the total cost being about $12.00 a term.

Students from outside the community of Reading will find boarding houses close to the Institute where room and board can be obtained for about $8.00 a week.

REFUNDS, ALLOWANCES, PENALTIES

WITHDRAWAL—In case of withdrawal a student shall be entitled to no refund of his tuition fee. Illness or other physical disability, attested by a doctor's certificate, shall be the only acceptable excuse. In case of extraordinary conditions the student may file a petition with the President and due consideration will be given the case.

The same provisions applying to refund of the tuition fee shall be applied to the refund of other fees and deposits, except the Matriculation Fee.

REDUCED DEPOSITS—In the event that any deposit is reduced to nothing by charges against it, the student shall be required to pay a sufficient sum to cover any additional charges.

LEAVE OF ABSENCE—If a student, for good cause, is granted a leave of absence, no fees or parts thereof will be refunded; however, the student will receive credit when he re-enters to an amount equal to the proportionate part of the term unexpired when leave of absence was granted.

ALLOWANCE UPON REINSTATEMENT—No portion of fees paid will be refunded to a student withdrawing from the Institute because of misconduct, or because of poor scholarship, or any other cause related to the impairment of his scholastic standing. If he is later reinstated he shall be entitled to an allowance equal to the proportionate part of the term unexpired when dismissed.

FEES FOR ADDITIONAL INSTRUCTION—Students who do not complete their courses in the time specified, and who return for the unfinished work when permission is granted shall pay $12.50 for each semester credit, provided the total in each term does not exceed the term tuition fee.

PAYMENTS—All fees are payable at the office of the Wyoming Polytechnic Institute between 8:00 A.M. and 5:00 P.M. weekdays and 8:00 A.M. and 12:00 noon Saturdays.

Payments must be made in cash or by check, bank draft or money order, to the order of the Treasurer of the Wyoming Polytechnic Institute for the exact amount due.

Any student who has been granted a scholarship shall obtain from the President a memorandum to this effect which shall be presented with his bill to the office of payment. An explanation of scholarships can be found on page 48 of this catalog.

FAILURE TO PAY—Any student failing to pay his fees on or before the day they are due shall be excluded from all classes, lectures, laboratories and examinations until such payment is made.
THE SUPPLY BUREAU

The Institute, purchasing in quantity, obtains books and supplies at a discount. At the supply bureau the discount is passed on to the student; thus he can get the necessary school equipment at cost. This bureau is operated only on a cash basis.

HEALTH SERVICE

By arrangement with the Wyomissing Industries the student has free access to the health service and facilities of their very modern dispensary. Three medical doctors are in attendance at all times. A full-time dentist and an oculist provide dental and ocular service at cost.

Several employers not affiliated with the Wyomissing Industries require applicants for apprenticeship to pass successfully the medical examination conducted by their plant physicians before accepting them.

LATE REGISTRATIONS

No student, in any case, shall be permitted to register any later than three weeks after the beginning of the term.

MISCELLANEOUS SERVICES

The Wyomissing Industries, in addition to providing health service, permit the student to utilize their other co-operative services. He is welcome at the spacious and modern cafeteria, where wholesome food is served at cost; he may take advantage of the many discounts at the co-operative store; he may enjoy the facilities of the Recreation Hall. Furthermore, he is given the privilege of utilizing the Delta Library, maintained by the Industries, where he will find diversified literature, many technical volumes, and the latest scientific and trade periodicals.

THE SEMESTER CREDIT SYSTEM

As a basis for measuring the relative weight of the different courses, the Wyomissing Polytechnic Institute uses the semester credit system. In the Technical Institute, one semester credit equals one lecture or recitation hour a week for one term or three hours of laboratory a week for one term. In the Junior Engineering College, one semester credit is equal to a total of fifteen hours of recitation or to a total of forty-five hours of laboratory during a term.

HONOR POINTS

Eligibility for graduation requires that a student shall have not only passed his courses but also accumulated as many honor points as semester credits carried during his program. Honor points can be determined by multiplying the passing grade received for any particular course by the number of semester credits of the course. Thus, if a student passes a course with a
grade of "0" he receives no honor points and is deficient to the extent of the number of semester credits of the course. He will, consequently, have to make a grade of "2" or better in a course of at least the same number of semester credits to eliminate the deficiency.

ABSENces

The program at the Wyomissing Polytechnic Institute is too intensive to permit frequent absences. Thus surveillance is maintained on the attendance of all students. Frequent absences are not tolerated.

AAdveNced StaNdinG

The Institute will permit an applicant who has pursued a college curriculum to enter with advanced standing, giving him credit for those courses which are similar to courses offered by the Institute and which he has passed successfully. An applicant for advanced standing must have a certificate of honorable dismissal and a transcript of his record sent direct to the Institute from the institution issuing them.

CerTifiCate of graDuAtion

Upon completion of his curriculum, a student at Wyomissing Polytechnic Institute is granted a certificate of graduation. Certificates shall not be granted students who have not satisfied scholastic requirements or who have outstanding financial obligations to the Institute.

ReligioUs faCiliTies

The Wyomissing Polytechnic Institute is a non-sectarian institution but does encourage regular church attendance. In the community will be found churches representing all the common denominations.

Employment Service

The Institute tries to obtain employment for all applicants to the Technical Institute, but does not assure it. The President of the Institute before the beginning of a term generally has a list of positions in the community available to those young men desiring to attend school but who, because of lack of work, find such a plan impossible. Applicants seeking these positions must meet the job specifications of the employers as well as satisfy the entrance requirements to the Institute before they will be accepted.

Students of the Junior Engineering College follow the co-operative plan during their first year. The President will place as many as he has positions available. Prospective students are encouraged, however, to seek employment themselves so that the demand on the restricted number of jobs available at the Institute during these times of unemployment will not be too great.

The grading System

At the Wyomissing Polytechnic Institute the grading system is as follows:

- 3 Excellent
- 2 Good
- 1 Fair
- 0 Passing without Honor Points
- -1 Condition
- -2 Failure

A grade of "-1" can be removed by the student if he is successful in a re-examination. A grade of "-2" necessitates repeating the course.
THE
TECHNICAL
INSTITUTE
THE FIELD OF THE TECHNICAL INSTITUTE

The co-operative department of the Wyomissing Polytechnic Institute has been developed in line with the findings and conclusions set forth in a report on a "Study of Technical Institutes," conducted over a period of three years by the Society for the Promotion of Engineering Education. In this report one function of these institutes has been emphasized.

"The function of the independent, endowed technical institute resembles that of the endowed college or university in many respects. It has been almost a rule in American experience that private initiative has been quicker to recognize neglected areas of education and to occupy them than public authorities. . . . The independent schools are then able to capitalize their freedom for experimentation with curricula, teaching methods and selective standards for admission, and to strive toward ideals of special excellence rather than the largest enrollments or most inclusive service."

"The largest field to be served by the technical institutes appears to be that of training men in the technology of particular industries . . . ."

"The co-operative plan, based on alternating periods of school work and industrial employment, seems particularly well adapted to the aims and levels of age and work of the technical institutes."

"It is a school of post-secondary character, but distinct in character from a college or university in the American sense of those terms."

"Being intensive in purpose, its courses . . . are essentially terminal rather than preparatory courses."

"Its entire scheme of instruction follows much more closely the actual usage of industry than that of the professional engineering schools."

[21]
THE CO-OPERATIVE PLAN

THE Institute operates on the plan of four weeks of school alternating with four weeks of practical work in the plants. Students are divided into two groups of equal size, one of which commences class work at the opening of the Institute year while the other begins work in the plants of co-operating companies. At the end of four weeks the two groups exchange places. The alternating program continues in operation throughout the school year of 44 weeks. The remaining eight weeks of the year are spent entirely in the shop.

Numerous advantages result from the close co-ordination between manipulative skill and the school program under the co-operative plan.

The co-operative work intensifies the interest of the apprentices in the studies in the class room and laboratory since they find practical application of the knowledge shortly after it has been acquired. The apprentices come into intimate contact earlier with experienced and mature men. They learn much from these men, both the foremen in the shops and the skilled mechanics. They meet the competition of our mechanical age and learn to cope with it successfully and without discouragement.

The alternate periods of study and practical work provide a mental refreshment and stimulant and show the apprentice very definitely the difference between the trained and untrained mind. In co-operative education the apprentices have a broader field of training. Their contact with workmen in the various departments in which they work during their shop periods gives them an insight into the worker’s viewpoint. This contact also forces them to develop tact and gives them an understanding of human nature.

Periods of practical industrial experience develop the student’s personality and strengthen his character. His courage, resourcefulness, and stamina are tested; his sense of responsibility is
brought into play; self-confidence and initiative are developed. Industrial experience acts as a much needed steadying influence. The student learns to see things in their true light and to value them accordingly; in particular he is more likely to appreciate the value of his education.

The co-operative student returning from his periods of industrial experience is more discerning and rationally critical of the work of his instructors. The faculty is, therefore, forced to keep abreast of current practices. The co-operative student, through his greater appreciation of the value of his education, is more of a challenge and an inspiration to his instructors.

NATURE OF THE PROGRAM

The Wyomissing Polytechnic Institute Co-operative Training Program has been developed to provide a good practical training together with technical instruction, closely related to practical plant operation, through which industries may successfully take young men into their organizations and whereby, through definite training program, the young man may successfully train himself for future responsibilities with the industry. The present program is the result of seven years' experience in training men for the Textile Machine Works, where it has proved to be successful and has worked out to the advantage of both the employer and the apprentice. Its purpose is to prepare men for work in any industry where technical ability in various phases of manufacture, design, or other types of skilled industrial work is required. With further experience the apprentice may develop and qualify for more responsible jobs and technical positions in the future.

The status of the apprentice in the co-operative department at the Wyomissing Polytechnic Institute differs from that of students in many other institutions of this same character. Whereas in other schools he is considered a student placed in industry for practical experience, at Wyomissing he is considered an employee attending school for necessary theoretical knowledge.

APPRENTICESHIPS

The curriculum in the Technical Institute has been designed primarily for training employees of the capital goods industries (industries producing steel, machinery, power, etc.), but also is appropriate for those employees of other fields of industry who are being prepared as mechanical, electrical, chemical technicians, machine fixers, erectors, skilled craftsmen, foundrymen, and in maintenance and laboratory work. In every case, the young man is following a co-operative program which will prepare him fully for a definite vocation.

Some of the operating employers require an applicant for an apprenticeship to sign an indenture which sets forth all the conditions of the apprenticeship. At the completion of the program, he is granted his journeyman's certificate. Other employers, particularly those preparing men for technical positions in their different specialized industries, require no formal agreement but expect the employees to complete satisfactorily the specialized training programs set up.

[View of the Main Machine Shop of the Textile Machine Works.]

[25]
THE WYOMISSING POLYTECHNIC INSTITUTE

For the purposes of illustrating the procedure in applying for apprenticeships and the conditions under which they are sometimes served, the following quotation is made by permission from the "Employees' Handbook" of the Textile Machine Works, Reading, Pennsylvania.

"The Textile Machine Works conducts apprenticeship courses for training those interested in becoming any of the following:

- Machinist
- Draftsman
- Toolmaker
- Diemaker
- Molder
- Electrician
- Wood Pattern Maker
- Metal Pattern Maker
- Tinsmith

"Each course requires four years of training and can be completed in that period of time provided no time is lost because of sickness, lack of work, leave of absence, or any other retarding condition.

"Young men interested in pursuing the different courses apply directly to the Employment Department of the Textile Machine Works. An exception is made for those interested in molding; they apply directly to the office of the Foundry.

"Apprentices are selected carefully; thus to be accepted an applicant must give evidence of the physical and mental qualities necessary for coping with the intensive training program. He must be over sixteen and not more than nineteen years of age and must have a high-school education or its equivalent. He must satisfy the medical doctors at the dispensary that he has good general health and any particular physical characteristics necessary in the trade he intends to follow. Finally, he must pass the examination conducted by the Wyomissing Polytechnic Institute to determine the quality of his preparation and his mental fitness to do the work.

"If successful in meeting the requirements, the applicant is accepted and placed on probation for a period of six months. During this time he is exposed to shop conditions and atmosphere and begins studies at the Polytechnic Institute where all apprentices follow a course of study co-operatively with their work in the shops. At the end of this period, he is presented with an indenture, upon the signing of which he becomes a bona-fide apprentice of the Company.

The indenture specifies the conditions under which the apprenticeship is served, the length of the apprenticeship, the rate of earnings and the amount of the bonus to be granted upon the satisfactory completion of the course. The present rates paid to apprentices while in the shops are 25, 28, 30, and 33 cents an hour for the first, second, third, and fourth years, respectively; the bonus given upon completion of the course is $200.00. The rates and bonus [in so far as present and future legislation permit] are subject to change upon the discretion of the Textile Machine Works.

"The apprenticeship course is a well-balanced program of practical and theoretical instruction. During alternate periods of four weeks each, the apprentice follows a loop of the machine shops, working in all departments during the indenure, and a technical curriculum at the Wyomissing Polytechnic Institute. The theoretical instruction covers Shop Practice, Mathematics, Engineering Drawing, Physics, Chemistry, English, Economics, Strength of Materials, and other appropriate courses.

"The curriculum is divided into five terms, but because of the alternation, requires for completion two and one-half years of the apprenticeship. The remaining one and one-half years are spent continuously in the shops.

"Those apprentices who have successfully completed their training at the Textile Machine Works and who desire to make a further study in related subjects will receive at the present time one and one-half years of credit from most of the colleges and universities in Pennsylvania."

In this particular industry, the Textile Machine Works, the practical training is under the immediate direction of the Superintendent, Mr. Gustav Gastrich, and two co-ordinators.

The program provides for, in addition to the "loop" explained above, further metal-working training from four to five o'clock each afternoon and from seven to twelve o'clock on Saturday mornings, during which time the apprentice may practice handicraft and, if he cares to, make for himself machinists' tools or other articles of value. This part of the program, however, is optional: the apprentice is not required to follow it, but is encouraged to do so.
PRIZES

Annually, the various industries cooperating with the Wyomissing Polytechnic Institute make awards to two students in each class, to one for having attained the highest school and shop record and to the other for having shown to his school and shop instructors the greatest degree of improvement. The awards are in the form of valuable shop tools and instruments, appropriate for the trades the young men are pursuing.

In addition, the Textile Machine Works annually rewards two of its outstanding graduates of the Institute with scholarships through which they might continue their technical training at degree-granting engineering colleges. The scholarships, granted upon the basis of the shop records of the candidates and upon the results of a competitive examination held at the Institute, provide that a recipient not only shall have been graduated from the Wyomissing Polytechnic Institute but also shall have completed an apprenticeship with that company prior to leaving on his new educational pursuit.

Each scholarship, with an annual value of $600.00, is granted for one year and is renewable for two additional years, provided the recipient has been successful in his studies. Ordinarily three years is more than adequate time in which to obtain a degree, for the winner of a scholarship usually can enter college with at least one-year's credit for his work completed at the Institute.

The selection of the college at which the work is to be done is left to the discretion of a winning candidate; however he must pursue a program in one of the various fields of engineering.

The list of grantees, the date of the awards, the colleges selected and the degrees obtained or being pursued are:

1929—Paul R. Fox, Penna. State College, B.S. in M.E.
1929—T. Glenwood Stoudt, Penna. State College, B.S. in M.E.; M.S. in M.E.
1932—Marvin Hepler, Penna. State College, B.S. in E.E.
1934—Robert D. Heffelinger, Penna. State College, B.S. in M.E.
1935—Elmer Devor, Penna. State College, B.S. in I.E.
1936—Paul G. Krott, Penna. State College, B.S. in I.E.
1937—Leon M. Knetz, Penna. State College, B.S. in M.E.
1937—George R. Keern, Penna. State College, B.S. in I. E.
1938—William Shelmerdine, Purdue University, B.S. in M.E.

REQUIREMENTS FOR ADMISSION TO THE TECHNICAL INSTITUTE

Admission to the co-operative department of the Wyomissing Polytechnic Institute may be made in September or February. Young men, preferably of high-school education, who, upon investigation, show evidence of their fitness, both physical and mental, of becoming a constructive part of the organization of a co-operating company, are eligible. They are selected by the companies subject to approval of the Institute from an educational viewpoint. Applicants, therefore, are judged by an industry from the standpoint of interest in its work and ability to acquire the necessary skills and to fit into the organization successfully, as well as by the Institute from the standpoint of requirements for success in an intensive program of this character.

Even though a high-school diploma is not a prerequisite to admission, boys planning to apply for entrance are encouraged to complete their high-school education in order that they might more readily adapt themselves to the theoretical training.

The requirements are not arbitrary, but are set with a view to determining in advance whether the applicants possess the essential qualifications required for success in the program and in the plant work for which they are to be trained, thus avoiding the waste to individual, plant, and Institute which might otherwise occur.
ENTRANCE EXAMINATIONS

THE TECHNICAL INSTITUTE

Those applicants who are among the upper two-fifths of the graduating class of an accredited high school will be accepted by the Institute without entrance examinations. All others will take examinations in Mathematics, Physics, Chemistry and English at the time specified on the calendar of the Technical Institute.

However, a few co-operating companies require all applicants for positions in their plants to take the entrance examinations regardless of previous scholastic attainments.

PROCEDURE IN APPLYING

All prospective students must file formal applications with the Institute and should do so as far in advance of expected entrance as possible. If convenient the applicant should arrange an interview with the President in order to discuss any individual problems that might arise. Application blanks can be obtained by writing to the Institute.

CLASSES

Classes for co-operative students are held between eight o'clock in the morning and four o'clock in the afternoon from Monday through Friday. There are seven periods of fifty-five minutes every day; each student, therefore, has a maximum of 35 classes a week. Much is expected of a young man; thus unless he is willing to work hard, to study three or four hours each evening during the school sessions, he should not apply for admission.

STUDENT EARNINGS

As has been stated previously, co-operative students at the Wyomissing Polytechnic Institute are paid regularly while in the shops. Wages in most of the plants depend upon business conditions and, of course, upon legislation; in the past few years the earnings of an apprentice have probably averaged twelve to fifteen dollars a week. Of course, it must be remembered that the apprentice is in the plant only one-half of the year, the remainder being spent in school. Co-operative students living at home, in almost all cases, find their earnings adequate to meet their needs. Others usually require a little financial assistance from their parents.

FINANCIAL ASSISTANCE

Many of the industries employing co-operative students assist them in meeting expenses by paying their tuition. This practice, however, is the policy of the employer, and the Institute cannot promise applicants positions with these firms.

Co-operative students should be able to meet their expenses, for they are paid regularly while in their shops.
CO-ORDINATION REPORTS

Upon completion of every four-week period in the plant, the student submits a co-ordination report upon some phase of his work during that period. This practice provides an effective means of determining the student's ability of applying his theory to practice, and, in general, of determining his adaptability to the program.

The report is read by the plant co-ordinator and graded on definiteness, accuracy of content, and completeness. In the Institute the report is read and graded by the instructor in Shop Theory and by the instructor in English.

REPORTS AND RECORDS

In order that the Institute will be informed of the progress of the student while in the shops, the foremen in the various plants forward periodical reports on his attainments. Likewise the student's scholarship grade is sent to the foremen at the end of every four-week school period.

At the Institute, these reports become a part of a very complete set of records of each student which contain, in addition, the kind of work he is doing, his earnings, and other pertinent information which will aid in directing the training of the boy.
THE CURRICULUM OF THE TECHNICAL INSTITUTE

FIRST YEAR

First Term

<table>
<thead>
<tr>
<th>Number</th>
<th>Course</th>
<th>Semester Credits</th>
<th>Hours per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 101</td>
<td>Inorganic Chemistry</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Draw. 101</td>
<td>Engineering Drawing</td>
<td>3</td>
<td>9</td>
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<tr>
<td>Math. 102</td>
<td>Trigonometry</td>
<td>6</td>
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<tr>
<td>Eng. 101</td>
<td>Composition</td>
<td>4</td>
<td>0</td>
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<tr>
<td>M. E. 3</td>
<td>Shop Theory</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Hyg. 1</td>
<td>Hygiene</td>
<td>1</td>
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<tr>
<td>Math. 101</td>
<td>*Algebra</td>
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<tr>
<td></td>
<td></td>
<td><strong>28</strong></td>
<td><strong>13</strong></td>
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*Given during the first term evening session. Students attend this class during the four-week periods allotted to shop work.

Second Term

<table>
<thead>
<tr>
<th>Number</th>
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<th>Hours per Week</th>
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<tbody>
<tr>
<td>Chem. 102</td>
<td>Inorganic Chemistry</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Phys. 101, 102</td>
<td>Physics-Mechanics</td>
<td>7</td>
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<td>Descriptive Geometry</td>
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<tr>
<td>Econ. 101</td>
<td>Principles of Economics</td>
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<td>3</td>
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<td>M. E. 2</td>
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SECOND YEAR

First Term

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<tbody>
<tr>
<td>Chem. 103</td>
<td>Qualitative Analysis</td>
<td>2</td>
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<td>Phys. 103, 104</td>
<td>Heat, Light, Sound, Electricity</td>
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<td>Principles of Economics</td>
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<td>M. E. 3</td>
<td>Shop Theory</td>
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<th>Course</th>
<th>Semester Credits</th>
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<tbody>
<tr>
<td>E. E. 11, 12</td>
<td>D. C. Theory and Machinery</td>
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<td>Eng. 102</td>
<td>Composition</td>
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<td>M. E. 110</td>
<td>Kinematics</td>
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<td>Econ. 103</td>
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<td>3</td>
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<td>M. E. 4</td>
<td>Shop Theory</td>
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<td>2</td>
</tr>
<tr>
<td>Draw. 104</td>
<td>Empirical Design</td>
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<table>
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<th>Hours per Week</th>
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<td>A. C. Theory and Machinery</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Eng. 103</td>
<td>Business English</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 104</td>
<td>Industrial Management</td>
<td>4</td>
<td>0</td>
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<tr>
<td>M. E. 120</td>
<td>Heat Engines</td>
<td>3</td>
<td>3</td>
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<tr>
<td>M. E. 114</td>
<td>Machine Design</td>
<td>6</td>
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<td>Elective: M. E. 18</td>
<td>Knitting Machinery</td>
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<tr>
<td>or M. E. 113</td>
<td>Materials of Engineering</td>
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<table>
<thead>
<tr>
<th>Number</th>
<th>Course</th>
<th>Semester Credits</th>
<th>Hours per Week</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td><strong>27</strong></td>
<td><strong>9</strong></td>
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</table>

Co-operative students from the Textile Machine Works will take M. E. 5—Shop Practice—during their five semesters. This course is given Saturday mornings from eight o'clock until noon in the machine shops and foundry of that industry.
THE
JUNIOR
ENGINEERING
COLLEGE
CALENDAR FOR THE JUNIOR ENGINEERING COLLEGE

First Year

1939

August 21
August 28
August 29
September 4
September 25
September 26
November 23, 24
December 24 to January 2

- Examinations for Admission
- Registration Day, Section A
- Beginning of the First Term—Section A
- Labor Day—Holiday
- Registration Day, Section B
- Beginning of the First Term—Section B
- Thanksgiving Recess
- Christmas Recess

1940

January 3, 4, 5
January 24, 25, 26
January 29
January 30
February 26
February 27
March 22
May 30
June 5, 6, 7
June 26, 27, 28

- Final Examinations—First Term—Section A
- Final Examinations—First Term—Section B
- Registration Day, Section A
- Beginning of the Second Term—Section A
- Registration Day, Section B
- Beginning of the Second Term—Section B
- Good Friday—Holiday
- Memorial Day—Holiday
- Final Examinations—Second Term—Section A
- Final Examinations—Second Term—Section B

Students will attend classes during the following periods, the intervening periods being spent in industrial plants:

First Term

SECTION A
1. August 29 to September 22
2. October 23 to November 17
3. December 18 to January 5

SECTION B
1. September 26 to October 20
2. November 20 to December 15
3. January 8 to January 25

Second Term

1. January 30 to February 23
2. March 25 to April 19
3. May 20 to June 7

1. February 27 to March 22
2. April 22 to May 17
3. June 10 to June 28

For students in the second year of the Junior College, the program is as follows:

Second Year

1939

August 21, 22, 23
August 28
August 29
September 4
November 8, 9, 10
November 13
December 24 to January 2

- Re-examinations
- Registration Day
- Beginning of the First Term
- Labor Day—Holiday
- Final Examinations—First Term
- Beginning of the Second Term
- Christmas Recess

1940

January 24, 25, 26
January 29
March 22
April 10, 11, 12
April 15
May 30
June 26, 27, 28

- Final Examinations—Second Term
- Beginning of the Third Term
- Good Friday—Holiday
- Final Examinations—Third Term
- Beginning of the Fourth Term
- Memorial Day—Holiday
- Final Examinations—Fourth Term
THE JUNIOR COLLEGE

There are many young men from the city of Reading and vicinity and elsewhere who desire a college education but who, because they cannot afford four years away from home, find their aim unattainable. Some of them do achieve their goal by delaying their education for a few years during which time they accumulate a fund sufficient to carry them through their first few years, depending upon circumstances for the remainder. But this group is a small minority. The large majority generally never enter a college classroom.

Then again, there are many young men in the community who, recognizing the impossibility of gaining a degree, would be thankful if they could obtain a few years of advanced instruction in order that they might be better able to meet the extreme competition in this society of ours, in which, if one is to progress at all, he must be well prepared. But of this group, few get instruction beyond that of the high school.

The Trustees of the Wyomissing Polytechnic Institute, having watched with interest the phenomenal development of the Junior College in the United States, and having the desire to make the Institute better serve the needs of the community, introduced in the fall of 1933 the second curriculum, the Junior Engineering College curriculum. That the junior college plan would work effectively was well assured since the community of well over one hundred and fifty thousand people was without any technical colleges, and since the original and fundamental curriculum at the Institute, the co-operative curriculum, covered most of the work completed during the freshman and sophomore years in the engineering schools.

The program set up and now being carried on is divided into six terms, two, each of eleven weeks, taken during the first year, and four, each of eleven weeks, the second year.

Seven different curricula are offered, all of which are similar in the two terms of the first year. Before the beginning of the second year, the student must determine the particular field of engineering he wants to prepare for and then select the appropriate curriculum. These seven curricula permit a choice of practically any field of engineering; they are properly designed to give any student the equivalent of the first two-years' work given in any senior engineering college to which he might want to transfer at the end of his studies at the Institute.

To make the program more worth while, a plan similar to that which the co-operative students follow has been effected whereby the students enrolled in the new curriculum spend, during their first year, four weeks in school and then four weeks at employment. During the second year, however, they spend their time continuously in school. Thus, by being exposed to
industry for which they generally are preparing, they gain first-
hand experience and also are able to determine before any time
is lost whether or not they have chosen the correct vocation.
Provisions for unemployed students are made with surrounding
industries to employ them during their periods out of school, two
students alternating every four weeks on one job.

Upon completion of the course, the students will find the tran-
sition to the engineering colleges of their choice very easy. They
will have had all the fundamentals and will be well into the real
specialization which generally begins in the engineering college
after the second year.

The President of the Institute will arrange the transfer of credits
to the college in which the course is to be completed.

ADVANTAGES OF THE WYOMISSING PLAN

MANY students embark on a college course without any defi-
nite knowledge or assurance that they are really fitted to
pursue the occupations for which the course they select will
prepare them. The result is a needless waste of time and money,
before they realize that their physical and mental powers are not
being put to their proper use.

The plan of the Junior Engineering College of the Wyomissing
Polytechnic Institute, as previously stated, is to have the students
attend classes for four weeks and then to work in the plant for
four weeks during their first year. This plan enables the student
as well as the Institute to determine his capabilities for the type
of work which will be required of him in the engineering field.
It also affords an opportunity to the young man who, upon leaving
high school, is not definitely sure of the field of work he wishes
to enter, to settle that perplexing and all-important problem with
little loss in time or money. The cost of that assurance, particu-
larly for young men from the Reading area, would be approxi-
mately $250.00 for that first year as compared with $800.00 to

$1,000.00 at another institution, where even then, without the
practical experience which is obtained at the Wyomissing Poly-
technic Institute, he may continue to the completion of his course,
only to find upon graduation that the practical application of his
theoretical knowledge is distasteful to him. The actual work in
the plant, which is one of the features of the course in the Wy-
missing Polytechnic Institute, would remove the possibility of such
an occurrence.

Another advantage of the "alternating plan" is that if a
student during the first year, at the conclusion of a four-week
period, fails to pass his required work, he may repeat his studies
the following four weeks without additional expense, and thereby
continue with his class.

To parents from Reading and the surrounding area, the Insti-
tute offers, as well as economy, the opportunity to exercise the
supervision over sons often necessary until they reach the age of
twenty or twenty-one.
Another point of interest is the size of the classes at the Wyomissing Polytechnic Institute. They are small enough to assure each student individual attention; thus a feeling of personal interest develops between the students and the faculty. Right in line with the policy of individual attention is the fact that the hour from 4:00 to 5:00 every afternoon is open, and students are encouraged to visit the instructors in whose classes they are having difficulties in order to obtain additional instruction.

The practical aspect which prevails throughout the entire course at the Wyomissing Polytechnic Institute is due in great part to the proximity of the Wyomissing Industries with their ten thousand employees, and, as well, to the close contact the Institute maintains with the other industries in and about Reading.

REQUIREMENTS FOR ADMISSION
TO THE JUNIOR ENGINEERING COLLEGE

CANDIDATES must be at least sixteen years of age, of good moral character, and must have a high school diploma.

Upon completion of his preparatory course, an applicant should have his principal fill in the record blank supplied by the Institute.

Applicants intending to pursue the Junior Engineering Curriculum must present the following entrance credits:

- English .............................................. .3 units
- History ........................................... .1 unit
- Algebra ........................................... .1½ units
- Plane Geometry ................................. .1 unit
- Solid Geometry ................................ .1½ units
- Trigonometry or Advanced Algebra ....... .1½ units
- Science ........................................... .1 unit
- Electives ......................................... .6½ units

However, an applicant can obtain admission without credit in Solid Geometry, Trigonometry, Advanced Algebra, or Science, provided he makes it up during his two-year course in addition to meeting his regular studies. How he can make it up will be explained to him in his interview upon applying.

A unit, the standard college entrance unit, represents a year's study of one subject, five periods of forty minutes each per week for thirty-six weeks, or the equivalent.

An applicant may choose his electives from Mathematics, Ancient or Modern Languages, History, Civics, Economics, General Science, Chemistry, Physics, Biology, Botany, Zoology, Physiology, Industrial History, Business Law, and Commercial Geography. From the following may be chosen a maximum of two units: Physiology and Hygiene, Manual Training, Freehand Drawing, Mechanical Drawing, Bookkeeping, Stenography, and Typewriting.

Applicants in the upper two-fifths of a graduating class of an accredited high school will be eligible to pursue the Junior Engineering College curriculum without examination.

All other applicants will take entrance examinations in those courses offered for entrance credit in which they did not receive a grade of "C" or better in their preparatory training.

FINANCIAL ASSISTANCE
PART-TIME EMPLOYMENT FOR COLLEGE STUDENTS

THROUGH arrangements with the National Youth Administration the Institute is able to provide needy students of the Junior Engineering College with part-time employment at the school as laboratory assistants or as clerks, and at various civic and social agencies in the community, such as the Boy Scout office and the Y. M. C. A.

At these positions, those employed earn a minimum of thirty cents an hour; however, each student is limited to a maximum of twenty dollars ($20.00) monthly.

This amount, if earned each month, would aid the student materially in meeting his tuition fee and in paying for his books and supplies.
SCHOLARSHIPS

In the Junior Engineering College, the Institute assists worthy students by granting four deferred-tuition scholarships annually to students entering the second year of the program. In order to be eligible for one of these loans, a student, besides having good scholastic standing, must definitely prove his need for aid.

Deferred-tuition scholarships are granted with the provision that they be paid off within a specified number of years after graduation. No interest is charged on these loans if they are paid at maturity.

The President of the Institute may request the parent or guardian of a student receiving a deferred-tuition scholarship to sign a note as evidence of the loan.

In addition to granting deferred-tuition scholarships, the Institute annually offers a limited number of free scholarships, partial or complete. However, a student, in order to be eligible for one of these, must have maintained a particularly good school record and at the same time, be in definite need of financial assistance.

SELECTION OF CURRICULUM

Before registering for the second year, a student must definitely select the field of engineering for which he wishes to prepare. Furthermore, he must select the senior engineering college to which he will transfer upon completion of his program at the Institute. These selections are required in order that he can be advised properly in the determination of his curriculum for the second year's study.
THE CURRICULA OF THE JUNIOR ENGINEERING COLLEGE

**Common for all engineering curricula**

**FIRST YEAR**

**First Term**

<table>
<thead>
<tr>
<th>Number</th>
<th>Course</th>
<th>Semester Credits</th>
<th>Hours per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Class</td>
<td>Lab.</td>
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<tr>
<td>Math. 2</td>
<td>Trigonometry</td>
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<tr>
<td>Chem. 1</td>
<td>Inorganic Chemistry</td>
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<td>Engineering Drawing</td>
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<tr>
<td>Hyg. 1</td>
<td>Hygiene</td>
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<td><em>Algebra</em></td>
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**Second Term**

| Math. 3 | Analytic Geometry  | 4     | 6    | 6     |
| Chem. 2 | Inorganic Chemistry| 3     | 3    | 4     |
| Draw. 2 | Descriptive Geometry| 3   | 3    | 4     |
| Phys. 1, 2 | Mechanics       | 5     | 5    | 6     |

*Given during the first term evening session. Students attend this class during the four-week periods allotted to shop work.*

**Second Year**

**First Term**

<table>
<thead>
<tr>
<th>Number</th>
<th>Course</th>
<th>Semester Credits</th>
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<tr>
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<td>Surv. 1</td>
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**Second Term**

| Math. 5 | Integral Calculus            | 4     | 6    | 0     |
| Phys. 5, 6 | Electricity and Magnetism  | 4     | 4    | 4     |
| Eng. 2  | Composition                  | 3     | 4    | 0     |
| Hist. 1 | Modern European History      | 3     | 4    | 0     |
| Econ. 1 | Principles of Economics      | 3     | 4    | 0     |

**Third Term**

| Mech. 1 | Analytical Mechanics         | 4     | 6    | 0     |
| Eng. 3  | Business English             | 3     | 4    | 0     |
| Hist. 2 | History of the U. S.         | 3     | 4    | 0     |
| Econ. 2 | Principles of Economics      | 3     | 4    | 0     |
| Draw. 3 | Engineering Drawing          | 1     | 1    | 5     |

**Fourth Term**

| Mech. 2 | Strength of Materials        | 4     | 6    | 0     |
| Eng. 4  | Argumentation                | 3     | 4    | 0     |
| M. E. 10 | Kinematics                | 4     | 4    | 5     |
| M. E. 20 | Heat Engines                | 3     | 4    | 0     |
| Draw. 4 | Empirical Design            | 1     | 0    | 5     |
### Second Year

#### First Term

<table>
<thead>
<tr>
<th>Number</th>
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<th>Semester Credits</th>
<th>Hours per Week</th>
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<th>Hours per Week</th>
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[52]
# THE WYOMISSING POLYTECHNIC INSTITUTE

## Ceramics

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### Chemical Engineering

#### Second Year

**First Term**

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### Metallurgical

#### Second Year

**First Term**

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THE EVENING SCHOOL
THE EVENING SCHOOL

The Wyomissing Polytechnic Institute, co-operating with the Extension School Division of the Pennsylvania State College and with the Wyomissing School District, conducts an evening school and special day classes for the benefit of individuals who seek instruction but who are handicapped because of employment or other reasons in obtaining it during the regular sessions.

COURSES

Classes are conducted in textile, industrial and mechanical engineering as well as in any other course for which a group of ten or more can be enrolled.

ENTRANCE REQUIREMENTS

There are no fixed entrance requirements for evening classes. However, the Director of the Evening School must be satisfied that an applicant is sufficiently prepared to pursue his chosen courses.

FEES AND EXPENSES

There is no tuition fee for evening classes; however, each student must make a deposit of $10.00 which will be returned to him if he attends 75% of all class meetings.

The only expense the student has is that for books and supplies. The cost of these is seldom more than $5.00 a year.

SCHEDULE

Classes are held Monday, Tuesday, Wednesday, and Thursday evenings from seven to nine o'clock, and Saturday morning from eight o'clock to noon. Each group meets two or three evenings a week, one hour an evening, or on Saturday morning for four hours. A student may carry in one term three courses. The work is divided into two terms: the first term for 1938-39 will begin September 25th; the second term will begin January 2nd.

REGISTRATION

Applicants are requested to see the President of the Institute or to write to him, stating the courses they would like to take, some time before September 23rd, in order that arrangements can be made for the formation of classes. Final registration will be held at the Institute, September 18th to 23rd, inclusive, between eight o'clock in the morning and five o'clock in the afternoon, and in the evenings of September 18th and 21st, between seven and nine o'clock.

### EVENING SCHOOL COURSES, 1938-1939

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DESCRIPTION OF COURSES

CHEMISTRY

CHEMISTRY 1. General Inorganic Chemistry—A study of the behavior of matter from the chemical viewpoint; chemical changes, laws of chemical combination, oxygen, oxidation, combustion, gas laws, hydrogen, electromotive series of elements, valence, structure of matter, molecular weights, atomic weights, solutions, etc. Lecture and recitation, three hours; laboratory, four hours. Three credits.

CHEMISTRY 2. General Inorganic Chemistry—A continuation of CHEMISTRY 1, with emphasis on iron and its alloys, iron compounds, nickel, chromium, vanadium, corrosion of metals, tungsten, manganese, the replacement series of metals, etc. Lecture and recitation, three hours; laboratory, four hours. Three credits.

CHEMISTRY 3. Qualitative Analysis—A study of the fundamental principles and use of qualitative analysis. Comprehensive study and laboratory work covering the most generally used metals and acids radicals. Lecture and recitation, three hours; laboratory, eight hours. Four credits.

CHEMISTRY 4. Quantitative Analysis—Practical work in the quantitative analysis laboratory accompanied by lecture and recitation work. A course which includes the theory and use of the balance and the theory and application of volumetric analysis to industrial use. Lecture and recitation, three hours; laboratory, twelve hours. Five credits.

CHEMISTRY 5. Quantitative Analysis—A continuation of CHEMISTRY 4 and an introduction to the theory and use of gravimetric analysis by the analysis of industrial products such as ores and steel. Lecture and recitation, three hours; laboratory, twelve hours. Five credits.

CHEMISTRY 101. General Inorganic Chemistry—The same as CHEMISTRY 1, but for students of the Technical Institute. Lecture and recitation, three hours; laboratory, four hours. Four credits.

CHEMISTRY 102. General Inorganic Chemistry—The same as CHEMISTRY 2, but for students of the Technical Institute. Lecture and recitation, three hours; laboratory, four hours. Four credits.

CHEMISTRY 103. Qualitative Analysis—An adaptation of CHEMISTRY 3 but for students of the Technical Institute. Lecture and recitation, one hour; laboratory, four hours. Two credits.

DRAWING AND DESCRIPTIVE GEOMETRY

DRAWING 1. Engineering Drawing—Use of instruments, freehand lettering, technical sketching, selection of views and sectional representation, selection of scales, dimensioning and inking. The fundamental principles of descriptive geometry including the theory of orthographic projection, plotting of points and lines, line directions, true lengths of lines, and planes. Nine hours. Two credits.

DRAWING 2. Descriptive Geometry—Engineering problems relating to points, lines, planes and solids, intersection and development of surfaces, shades and shadow, warped surfaces, isometric and perspective drawing. Lecture, three hours; laboratory, four hours. Three credits.


ECONOMICS

ECONOMICS 1. Principles of Economics—A general course in the principles underlying our present economic structure with emphasis upon the production process, specialization, business organizations, money and credit. Lecture and recitation, four hours. Three credits.

ECONOMICS 2. Principles of Economics—A continuation of ECONOMICS 1 with emphasis upon the determination of prices, distribution, consumption, the business cycle and changes in the price level. Lecture and recitation, four hours. Three credits.

ECONOMICS 101. Principles of Economics—The same as ECONOMICS 1 but for students of the Technical Institute. Lecture and recitation, four hours. Four credits.

ECONOMICS 102. Principles of Economics—The same as ECONOMICS 2 but for students of the Technical Institute. Lecture and recitation, four hours. Four credits.

ECONOMICS 103. Corporation Finance—A treatment of the promotion and the financial management of corporations; insolvency, receivables and reorganization. Lecture and recitation, three hours. Three credits.

ECONOMICS 104. Industrial Management—A study of industrial organization and administration, including the principles of organization, the plant and working conditions, standardization, job study and wages, personnel relations, and controlling operations. Lecture and recitation, four hours. Four credits.

ELECTRICAL ENGINEERING


E. E. 12. Direct Current Laboratory—Direct current measurements and tests of direct current machinery. Must be taken with E. E. 11. Prerequisites, PHYSICS 103 and 104. Three hours laboratory and three hours consultation. Two credits.


ENGLISH


ENGLISH 101. Composition—The same as ENGLISH 1 but for students in the Technical Institute. Four hour. Four credits.

ENGLISH 102. Composition—The same as ENGLISH 2 but for students in the Technical Institute. Four hours. Three credits.


GERMAN

GERMAN 1. Elementary German—Exercises in grammar, composition reading and pronunciation. For students who do not offer two units in German as entrance credit. Four hours. Three credits.

GERMAN 2. Elementary German—A continuation of GERMAN 1. Advanced grammar, composition, conversation and reading. Four hours. Three credits.

GERMAN 3. Intermediate German—German prose and poetry. Grammar and composition. For students who offer entrance credit of two units in German. Four hours. Three credits.


HISTORY

HISTORY 1. Modern European History—A history of Europe since 1815. Four hours. Three credits.

HISTORY 2. History of the United States since 1865—A survey of political, economical, and social development of the United States since the Civil War. Four hours. Three credits.

HYGIENE

HYGIENE 1. Personal Hygiene—Personal health habits; diseases and injuries; sanitation; the importance to the individual of right living. Lectures, collateral reading, conferences. One hour. One credit, Technical Institute. No credit, Junior College.

MATHEMATICS

MATHEMATICS 2. Trigonometry—Definitions of trigonometric functions; analytical and graphical solution of trigonometric equations; identities; inverse functions; use of logarithms; numerical solution of right and oblique triangles; spherical triangles. Six hours. Four credits.

MATHEMATICS 3. Analytical Geometry—The straight line, circle, and conic sections; rectangular and polar co-ordinates in the plane and in space. Prerequisites: MATHEMATICS 2. Six hours. Four credits.


MATHEMATICS 5. Integral Calculus—Indefinite integral; definite integral, definite integral as the limit of a sum; centroids, infinite series; Maclaurin's series; Taylor's series; simple differential equations; partial and total differentiation; multiple integrals; moments of inertia. Prerequisite: MATHEMATICS 4. Six hours. Four credits.


MATHEMATICS 110. Applied Mathematics—Calculation of all kinds of problems in shop work involving use of algebra, plane geometry, and trigonometry. Also calculations of change gears for cutting threads, both U. S. Standard and metric; calculations for change gears for cutting helical gears; computing gear center distances, lengths of belts, etc. Four hours. Four credits.

MECHANICAL ENGINEERING

M. E. 1. Shop Theory—Lectures and recitations on shop methods and small tools, including micrometers, verniers, grinding wheels, files, chisels, etc. Three hours. Three credits.

M. E. 2. Shop Theory—Continuation of M. E. 1, covering drills, taps, reamers, threads and calculations for change gears. Two hours. Two credits.

M. E. 3. Shop Theory—Machine shop equipment, including lathes, milling machines, planers, shapers, and dividing heads; calculations for plain and differential indexing; also milling of helixes. Two hours. Two credits.

M. E. 4. Shop Theory—Heat treatment of tool steels, including annealing, hardening, tempering, and case-hardening. Two hours. Two credits.

M. E. 5. Shop Practice—Co-operative Employment—General shop practice, including a large amount of machine shop and foundry work. Total 968 hours.

M. E. 10. Kinematics—Theory of mechanisms with practical applications, including wrapping connectors, linkwork, spur and epicyclic gearing, cams, screws, etc., velocity, accelerations, and inertia forces by both graphical and algebraic methods. Includes work on balancing and critical speeds. Lecture and recitation work, four hours; laboratory, five hours. Prerequisites, DRAWING 1, MECHANICS 1. Four credits.

M. E. 18. Knitting Machinery—A study of the individual mechanisms and parts of the Full-fashioned Knitting Machine, including the purpose, description, and action of each part and motion, and the part it plays in the knitting of a stocking. The action of the needles, sinkers, dividers, knockout bits and narrowing points during the knitting and narrowing operations receive particular attention. For the students of the Technical Institute employed by the Textile Machine Works. Six hours. Six credits.
MECHANICS

MECHANICS 1. Analytical Mechanics—Application of the principles of statics to rigid bodies; moments of inertia; work; energy; power; and friction; kinetics of a rigid body. Prerequisites, PHYSICS 1 and 2, MATHEMATICS 4 and 5. Six hours. Four credits.

MECHANICS 2. Strength of Materials—Elementary stresses and strains; torsion; flexure, including elastic curves, safe loads, shear and moments in simple and compound beams; determinate and indeterminate beams; reinforced concrete beams; beams of uniform strength; columns; shafts; curved beams and hooks, etc.; Combined and repeated stresses. Prerequisites, MECHANICS 1, and MATHEMATICS 5. Six hours. Four credits.

MECHANICS 101. Elementary Mechanics—A brief course in elementary mechanics patterned after MECHANICS 1, but not requiring Calculus. Five hours. Five credits.

MECHANICS 102. Strength of Materials—Simple stresses; materials of construction and methods of testing; riveted joints, common theory of beams with applications; analysis of stresses in columns, hooks, etc., shafting subjected to combined twisting and bending; springs; reinforced concrete. Prerequisite, MECHANICS 101. Four hours. Four credits.

PHYSICS

PHYSICS 1. Mechanics—Lecture and recitation with special attention to the derivation of formulas and to the solution of problems in kinetics and dynamics. Requisites, MATHEMATICS 2, and PHYSICS 2. Five hours.

PHYSICS 2. Physics Laboratory—The laboratory course accompanying PHYSICS 1. Six hours. Total of five credits for PHYSICS 1 and 2.

PHYSICS 3. Heat, Light, Sound—The fundamental concepts of heat, expansion, calorimetry, change of state, transfer of heat, Carnot Cycle steam engines and gas engines, introduction to thermodynamics. Production and transmission of sound, characteristics of musical sounds, acoustics, nature, propagation and intensity of light; laws of mirrors and lenses; optical instruments, interference and diffraction, radiation and absorption; the spectrum and color; polarization and double refraction. Prerequisites, PHYSICS 1 and 2. Four hours.

PHYSICS 4. Physics Laboratory—The laboratory course accompanying PHYSICS 3. Four hours. Total of four credits for PHYSICS 3 and 4.

PHYSICS 5. Electricity and Magnetism—Lecture and recitation with special emphasis upon the solution of problems on Ohm’s Law, electrical power and energy, properties of wire, measurement of resistance, magnets and magnetism, magnetic circuit, batteries and electro-chemical action. Kirchhoff’s Laws, inductance and capacitance. Prerequisites, PHYSICS 1, 2, 3, and 4. Four hours.

PHYSICS 6. Physics Laboratory—The laboratory course in electricity and magnetism, as a requisite to PHYSICS 5. Four hours. Total of four credits for PHYSICS 5 and 6.

PHYSICS 101. Mechanics—The same as PHYSICS 1, but for students of the Technical Institute. Five hours.

PHYSICS 102. Physics Laboratory—The laboratory course accompanying PHYSICS 101. Six hours. Total of seven credits for PHYSICS 101 and 102.

PHYSICS 103. Heat, Light, Sound and Electricity—A study of the fundamental physical concepts of heat, light, sound and electricity with special attention on the derivation of formulas and solution of problems. Lecture and recitation, four hours.

PHYSICS 104. Physics Laboratory—Laboratory course accompanying PHYSICS 103. Six hours. Total of four credits for PHYSICS 103 and 104.

SURVEYING

SURVEYING 1. Surveying—A general course in the fundamentals of surveying; including the construction, use, care, and adjustment of surveying instruments; differential and profile leveling; running a traverse; area determination by latitudes and departures; land surveys and deed descriptions; building site layouts; determining elevation of an inaccessible point; and note keeping. Lecture and recitation, two hours; field work, four hours. Two credits.

SURVEYING 2. Surveying—A continuation of SURVEYING 1. This course includes topographic surveying and drawing; field layout of a simple and compound curve; earthwork computations and field work, including cross sections and slope stakes; and the construction of a complete topographic map by the stadia-transit method. Lecture and recitation, two hours; field work, four hours. Two credits.
THE WYOMISSING POLYTECHNIC INSTITUTE

TECHNICAL INSTITUTE
Students—1938-1939

ABEL, EARL D. .......................................................... Reading, Pa.
ACHENBACH, FRANCIS P. ................................................ Lebanon, Pa.
BAJOS, RAFAEL .......................................................... Havana, Cuba
BARTH, WILLIAM A. .................................................... Pottstown, Pa.
BART, CHARLES .......................................................... Reading, Pa.
BAUER, CLAIR A. ........................................................ Reading, Pa.
BECKER, WILBUR H. ................................................... Reading, Pa.
BEYER, HERBERT K. .................................................... Royersford, Pa.
BIEHL, STEWART P. .................................................... Hamburg, Pa.
BILGER, MAYNARD L. ................................................... Douglassville, Pa.
BIRNEY, RICHARD W. .................................................. Reading, Pa.
BITTENBENDER, EARL .................................................. Bechtelsville, Pa.
BIVANS, WILLARD ..................................................... Reading, Pa.
BORELL, WILLIAM A. .................................................. Reading, Pa.
BOSSLER, RAYMOND H. ................................................ Reading, Pa.
BOYER, JAMES G. ....................................................... Reading, Pa.
BOYER, JAMES H., JR. ................................................ Jasper, Alabama
BOYER, ROBERT B. ..................................................... Reading, Pa.
BULLOCK, BYRON L. .................................................. Beach Creek, Pa.
CALLER, EARL R. ....................................................... Reading, Pa.
CONBOY, WILLIAM J. .................................................. Reading, Pa.
CRIMALDI, JOSEPH .................................................... Reading, Pa.
DALRYMPLE, JAMES .................................................. Reading, Pa.
DARR, EDGAR M. ....................................................... Reading, Pa.
DINKELocker, EDWARD ................................................. Schwenksville, Pa.
DUNN, WALTER R. .................................................... Stony Creek Mills, Pa.
EBERLY, WILLIAM ...................................................... Reading, Pa.
EISCHIN, NELSON R. .................................................. Toledo, Ohio
EISELE, KARL H. ....................................................... West Lawn, Pa.
ENGEL, GEORGE A. .................................................... Reading, Pa.
ESSIG, ERWIN .......................................................... Laureldale, Pa.
EVANS, LAURENCE E. ................................................... Stony Creek Mills, Pa.
FEICK, HENRY S. ....................................................... Reading, Pa.
FOCHT, DOUGLASS N. ................................................ Pottstown, Pa.
FRANTZ, RAY J. ........................................................ Fredericksburg, Pa.
FRETZ, QUENTIN L. ................................................... Bernville, Pa.
FRILL, ROBERT H. ..................................................... Reading, Pa.
GEISER, GEORGE E. .................................................... Reading, Pa.
GEISER, GEORGE J. .................................................... Reading, Pa.
GEIST, DALLAS F. ..................................................... Mohnton, Pa.
GEISS, ROBERT ........................................................ Reading, Pa.
GEIST, EARL D. ........................................................ Reading, Pa.
GRANT, RICHARD S. .................................................. Reading, Pa.
GREISS, ROBERT ...................................................... Reading, Pa.
GROFF, JAMES L. ...................................................... Lititz, Pa.
GROFF, JAY H. ........................................................ Lititz, Pa.
HAAS, WAYNE L. ...................................................... Birdsboro, Pa.
HANNUM, EDGAR L. .................................................. Laureldale, Pa.
HARRISON, NELSON .................................................. Toledo, Ohio
HARTER, HARRY J. .................................................... Reading, Pa.
HARTLINE, HAROLD S. ................................................ Stony Creek Mills, Pa.
HECKMAN, RUSSELL E. ................................................. Reading, Pa.
HEFFELINGER, BERNARD F. ......................................... Wyomissing, Pa.
HESSMEYER, FRITZ M. ................................................ Wyomissing, Pa.
HICKNELL, EDWIN M. ................................................ Schaefferstown, Pa.
HIGH, EUGENE W. ..................................................... Reading, Pa.
HILL, CHARLES ........................................................ Reading, Pa.
HILL, ROY W. .......................................................... Reading, Pa.
HUBER, EDWIN .......................................................... Reading, Pa.
HUFF, GERALD F. ..................................................... Charlotte, N. C.
IMPINK, ALBERT A. ................................................... Reading, Pa.
INGHAM, RUSSELL W. ................................................ Wyomissing, Pa.
JAMISON, ROBERT S. .................................................. Reading, Pa.
JOHNSTON, CURTIS G. ................................................ Reading, Pa.
KEEN, HAROLD H. ..................................................... Schaefferstown, Pa.
KEENER, CARL D. ..................................................... Bernville, Pa.
KILLIAN, WILLIAM J. ................................................ Schuylkill Haven, Pa.
KOBZA, ANDREW V. .................................................. Reading, Pa.
KOMP, EUGENE J. ..................................................... Reading, Pa.
KOPPENHAVER, BRUCE .............................................. Reading, Pa.
KRICK, STEWART K. .................................................. Pottstown, Pa.
KRITZ, JAMES F. ...................................................... Shillington, Pa.
KURTZ, JOHN .......................................................... Boyertown, Pa.
KURY, JACOB F. ....................................................... Reading, Pa.
LEAS, HAROLD ........................................................ Oley, Pa.
LEHMAN, PERE C. ..................................................... Reading, Pa.
LEINBACH, ROBERT S. ............................................... Reading, Pa.
LESSER, EDWARD F. .................................................. Reading, Pa.
LONG, ROBERT J. ..................................................... Reading, Pa.
LORD, HARRY .......................................................... Reading, Pa.
LUDWIG, MELVIN R. .................................................. Reading, Pa.
LUTZ, HERMAN M. .................................................... Reading, Pa.
MAIER, HERBERT N. .................................................. Pottstown, Pa.
MARKS, WILLIAM R. .................................................. Reading, Pa.
MAY, ERNEST C., JR. .................................................. West Leesport, Pa.
MCDONNELL, EWOLD M. ............................................. Reading, Pa.
MENTZER, LUKE D. .................................................. Reading, Pa.
MEYER, FREDERICK E. ............................................... Reading, Pa.
MONTAG, JAMES A. .................................................. Milwaukee, Wis.
MOYER, JOHN W. ..................................................... Reading, Pa.
<table>
<thead>
<tr>
<th>Name</th>
<th>City, State</th>
</tr>
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<tbody>
<tr>
<td>Mroz, Chester J.</td>
<td>Reading, Pa.</td>
</tr>
<tr>
<td>Nagle, George J.</td>
<td>Mohnton, Pa.</td>
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<td>Navarro, William D.</td>
<td>Toledo, Ohio</td>
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<td>Nezel, Lester T.</td>
<td>West Reading, Pa.</td>
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<td>Norton, Royce T.</td>
<td>Friendship, N.Y.</td>
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<td>O'Neill, Donald</td>
<td>Toledo, Ohio</td>
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<tr>
<td>Rajekci, Leonard L.</td>
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<td>Reigner, Robert S.</td>
<td>Kutztown, Pa.</td>
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<td>Rickolt, Lake</td>
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<td>Rittenhouse, Donald</td>
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<td>Rumbaugh, Ernest E.</td>
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<td>Rumpf, Leonard J.</td>
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<td>Theiling, Charles F.</td>
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<td>Troutman, Joseph J.</td>
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<td>Wetzl, Stewart C.</td>
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<td>Westley, Wilbur W.</td>
<td>Washington, D.C.</td>
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<td>Wheeler, Robert A.</td>
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<td>Williams, Kenneth C.</td>
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<td>Wingenroth, Raymond G.</td>
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<td>Wright, Wilbur E.</td>
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<td>Yech, William F.</td>
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<td>Zdunowski, Joseph E.</td>
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<tr>
<td>Berger, Russell A.</td>
<td>Reading, Pa.</td>
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<tr>
<td>Bierly, Boyd M.</td>
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<td>Burke, Philip A.</td>
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<td>Hamburg, Pa.</td>
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<td>Cashman, James E.</td>
<td>Reading, Pa.</td>
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<td>Chafee, James E.</td>
<td>Fleetwood, Pa., R.D. 1</td>
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<td>Chiarelli, Louis</td>
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<td>Cliff, Richard H.</td>
<td>South Temple, Pa.</td>
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<td>Council, Conway B.</td>
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<td>Denholm, Donald H.</td>
<td>York, Pa.</td>
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<td>Dill, Alvin C., Jr.</td>
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<td>Drumheller, Carl E.</td>
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<td>Euerle, Wilbur C.</td>
<td>Stratford, Conn.</td>
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<td>Everline, Robert P.</td>
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<td>Finger, John F.</td>
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<td>Fink, Ray M.</td>
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<td>Fitzpatrick, James, Jr.</td>
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<td>Forndahl, Donald E.</td>
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<td>Freed, Chester R.</td>
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<td>Freed, William M.</td>
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<td>Friedman, Milton</td>
<td>Reading, Pa.</td>
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<td>Gambler, Floyd, Jr.</td>
<td>Reading, Pa.</td>
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<td>Geissinger, David S.</td>
<td>Macungie, Pa.</td>
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<td>Goldberg, Aaron</td>
<td>Reading, Pa.</td>
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<td>Greth, Eugene L.</td>
<td>Reading, Pa.</td>
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<td>Grim, J. Daniel</td>
<td>Reading, Pa.</td>
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<td>Guiss, Robert G.</td>
<td>Reading, Pa.</td>
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<td>Hahn, Alexander S.</td>
<td>Reading, Pa.</td>
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<td>Hard, Edward H.</td>
<td>Reading, Pa.</td>
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<tr>
<td>Heffner, John C.</td>
<td>Lyons Station, Pa.</td>
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<td>Hendricks, John</td>
<td>Reading, Pa.</td>
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<tr>
<td>High, Thomas M.</td>
<td>West Leesport, Pa.</td>
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<td>Hollenbach, Edwin A.</td>
<td>Reading, Pa.</td>
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<td>Hottenstein, Carl C.</td>
<td>Richland, Pa.</td>
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<td>Huntzinger, Richard S.</td>
<td>Reading, Pa.</td>
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<td>Ibach, William F.</td>
<td>Reading, Pa.</td>
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</tbody>
</table>

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JONES, ARTHUR L. .................................................. Reading, Pa.
KEIM, OTHNIEL A. ............................................ Pottstown, Pa.
KEMPER, WILLIAM H. ........................................ Reading, Pa.
KIMMEL, RICHARD S. ........................................ York, Pa.
KNOLL, JAMES R. ................................................ Akron, Pa.
KUBACKI, EDWARD L. ........................................ Reading, Pa.
LAPP, CHARLES B. .............................................. Reading, Pa.
LEBO, RICHARD W. ............................................ Buffalo, N. Y.
LEED, DEAN S. .................................................. Denver, Pa., R. D. 1
LEININGER, ARLINGTON S. ................................ Robesonia, Pa.
LENHART, ELMER C. .......................................... Hamburg, Pa.
MANZOLILLO, FRANCIS D. ................................. Reading, Pa.
MATTEN, CHARLES W. ......................................... Wyomissing, Pa.
MAUGER, FRANK A. ........................................... Malvern, Pa.
MEINHARDT, EDWARD B. ...................................... Reading, Pa.
MILLER, LLOYD E. ............................................... Wyomissing, Pa.
MOON, CLARENCE W. .......................................... Mt. Penn, Pa.
MOYER, RICHARD B. ........................................... Wyomissing, Pa.
MULHOLLAND, VERGIL ......................................... Mt. Penn, Pa.
NEUBAUER, FRANK A. ......................................... Lebanon, Pa.
O’CONNELL, WILLIAM J. ..................................... Reading, Pa.
PALMISANO, R. RICHARD ................................. Reading, Pa.
REDIG, KARL J. .................................................. Ephrata, Pa.
RENTZ, DONALD J. ........................................... West Lawn, Pa.
RESSH, ROBERT S. ........................................... Reading, Pa.
ROBERTS, JOHN W. ........................................... Birdsboro, Pa.
SANDO, STEWART ............................................... Reading, Pa.
SAUSSER, JOHN M. ........................................... Reading, Pa.
SCHOLL, JOHN P. ............................................... Reading, Pa.
SEIDEL, JACK K. .............................................. West Reading, Pa.
SEIFART, ARNO .................................................. Charlotte, N. C.
SERFAS, CLIFFORD D. ........................................ Reading, Pa.
SHANFELDER, ROBERT F. .................................... Reading, Pa.
SHERMAN, JACK B. ........................................... Newmanstown, Pa.
SITTLER, GEORGE C. .......................................... Shillington, Pa.
SMITH, WILLIAM J., JR. ...................................... Reading, Pa.
SNYDER, JAMES H. ........................................... Moehrsville, Pa.
SONSINI, HERMAN J. ......................................... Reading, Pa.
STOVER, RICHARD H. ........................................ Reading, Pa.
SYCHTERZ, JOSEPH A. ....................................... Reading, Pa.
TERREY, ROBERT J. ........................................... Reading, Pa.
TRANSUE, JAMES D. ........................................... Hamburg, Pa.
WEAVER, JAMES L ............................................. Robesonia, Pa.
WENZEL, STEWART E. ....................................... Wyomissing, Pa.
WHITE, RALPH W. ............................................. Shillington, Pa.

---

GRADUATES

Class of 1929

Bashore, Clyde
Bensinger, Oscar F.
Buckenroad, Paul
Fair, Clarence A.
Flemming, Norbert A.
Fox, Paul
Fox, Fiegen
Gissler, Carl

Goodison, Ralph H.
Gross, John R.
Handwork, Frank R.
Hill, Edward M.
Hill, John A.
Kles, John M.
Kline, Byrl G.
Landis, Robert D.

Class of 1930

Angstadt, Charles A.
Edris, Clair J.
Eshelman, Kenneth
Gross, Norman
Hornberger, Clarence

Miller, Leroy W.
Reese, Charles J.
Rhoads, Russell A.
Schuler, Albert
Sentz, Michael

Class of 1931

Bashore, Roy
Betz, William A.
Bevan, Wellington
Boyler, Lewis
Burns, Lyman
Curley, Wilbur
Drexler, Paul
Emig, Earl
Eyrich, Ralph
Fiery, Paul
Gates, Walter
Hais, Charles
Habaler, Donald
Heck, George
Henry, William H.
Hepler, Marvin
Hertzler, Harry
Hilbein, Robert
Ibach, Ralph

Ireland, Frederick
Jordan, Joseph
Kalbach, Raymond
Klein, Arthur
Lobe, Warren B.
Leinback, George
Leisey, Harold
Lessig, Samuel
Martin, Edgar
Mathew, Charles
McColloch, John T.
Merkel, Stuart
Messner, Russell
Miller, Kenneth
Miller, Rudolph
Moll, Earl
Moyer, Ralph
Noll, Howard
Nowotarski, Adam
Plautz, Charles

Class of 1932

Aschenbrenner, Harold
Bossaing, Norman
Dornes, Paul R.
Dorsch, Earl S.
Eisele, Harry A.
Eshelman, Richard F.
Feiter, Earl S.
Frankhouser, Willis
Gantner, Edward W.
Hafer, Herman
Hartman, Harold D.
Heffelfinger, Robert D.
Hinkley, Henry R.
Hoffecker, Frank

Johnson, John R.
Kerschner, John L.
Lamm, Clarence C.
Lauck, Russell
Leitzel, Leon F.
Levan, Alvin G.
Lindsey, Ivan N.
Mazurkiewicz, Stanley
Mehlbaum, Robert G.
Mengel, Wilbert
Miller, Claire T.
Moyer, Harold R.
Pelham, Mayo J.
Schadler, George F.

Class of 1933

North, Russell M.
Prinz, John W.
Reise, Frederick
Richter, Harold
Schumpert, Harry W.
Ulmia, John C.

Simons, Frank
Wentzel, Frederick H.
Zittern, Carl J.

Reinhart, Kenneth
Rittenhouse, Harold
Ritz, Carl
Sassaman, George
Schlichter, Lawrence
Shoemaker, Bruce
Smeltzer, Harold
Smith, Russell
Solis, Frank W.
Stadelmyer, William
Staunton, Carl W.
Strecker, George
Tilmes, Ernest
Wetzel, Herbert
Wiley, Lloyd
Wittko, Floyd
Yinger, Russell
Zwick, Walter
THE WYOMISSING POLYTECHNIC INSTITUTE

Berhalter, Rudolph
Cassel, Herbert
Devor, Elmer
Engel, Max C.
Fager, Harold
Forester, Jack
Frye, John R.
Galabour, Ferdinand
Geist, Ralph

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Grath, Clarence
Groff, Paul
Hartgen, Jerome
Heist, Arthur H.
Joos, Carl
Krott, Paul G.
Mengel, Alvin
Mohring, Herman
Moyer, Charles
Ritz, Russell
Senz, Frank C.
Shaffer, Walter B.
Soderlund, Edward A.
Soltis, Steve
Thiele, Edward
Tretz, Robert R.

Class of 1934
Knetz, Leon M.
Koch, Mervyn
Knick, Charles E.
Lau, Donald
Lotz, Robert G.
Mason, John Robert

Class of 1935
Ireland, Robert
Jost, Harry E. V.
Kehn, George R.
Kellenberger, Robert K.
Kubacki, Wallace J.
Kutch, Marvin I.
Marshall, Norman
McDonald, William
Mengel, Irvin
Mohn, William V.
Mullen, Thomas Y.
Prendergast, John R.
Roland, Robert E.
Roth, Harold K.
Rothenberger, Edwin
Rubright, LeRoy
Scheck, George
Schiegel, Glenn C.
Schoenly, Malcolm
Seidel, Bruce
Shull, Irving R.
Smith, Donald
Valley, Floyd
Zimmerman, Eric L.

Class of 1936
Kahler, D. Leonard
Kercher, James
Manwiller, Richard F.
Markle, George H.
Mehle, Lewis
Minnich, Richard W.
Montross, Eugene V.
Motter, George O.
Muth, Frank J.
Popoff, Valentine G.
Purt, William
Reindel, Albert H.
Reiniger, Paul K.
Rhoads, Evan D.
Ritter, George H.
Ruth, Daniel H.
Schoffstall, Donald L.
Snyder, Lloyd T.
Stuber, Harold A.
Stuebner, Vernon
Trefz, Otto E.
Villforth, Fred J.
Wenzel, Frank W.

Class of 1937
Conway, Willard R.
Curley, Chester C.
Daunich, Charles
Duianey, Robert B.
Fell, Francis H.
Fleming, Thomas F.
Foster, Paul
Grim, George B.
Grimes, Richard
Hall, Richard H.
Harper, James C.
Hay, Philip
Heckman, Albert
Heckman, Edward

Class of 1938
Ammon, Robert H.
Boeck, Richard H.
Boyer, Walter T.
Bressler, John L.
Brooks, Verne H.
Butts, Layton E.
Chittick, E. Linwood
Conner, Robert P.
Delaney, Edward F.
Dreml, Alfred F.
Ehrlich, Alexander I.
Freed, William M.
Gerhart, Lynwood

Class of 1939
Abel, Earl D.
Atkinson, Richard M.
Baker, Charles R.
Bast, Charles
Bauer, Clair A.
Bivans, Willard
Blewett, John H.
Burkey, Daniel A.
Chateau, James E.
Chiarelli, Louis
Cliff, Richard H.
Dalrymple, James
Dill, Alvin C., Jr.
Dinger, John F.
Fornwalt, Donald E.
Gleissinger, David S.
Goldberg, Aaron
Goldfinger, Bernard
Hoellenbach, Edgar A.
Hottenstein, Carl
Ibach, William F.
Kobza, Andrew V.
Koppenuhaver, Bruce
Kubacki, Edward L.
Lapp, Charles B.
Lebo, Richard W.
Lord, Harry

Class of 1940
Heist, Arthur R., Jr.
Hennings, George T.
Henry, Walter G.
Hollenbach, George K.
Hollenbach, Harold H.
Jones, Thomas E.
Kershner, Merritt F.
Klemmer, Charles
Landsis, Charles W.
Lauer, Leo, F.
Leas, Floyd, Jr.
Long, Augustus G.
McConnell, Robert
Mill, Harry
Mills, Charles A., Jr.
Moehl, Richard
Nash, Homer G.
Paris, Henry
Pomeroi, George S.
Reddig, Harry P.
Ritter, Benjamin
Rubin, Lester R.
Sheimerdine, William R.
Smith, Robert W.
Snavely, Luke J.
Steely, Denton A.
Stiles, Joseph E.
Stump, Harry R.
Tomkins, Stanton E.
Wenrich, Walter
Wiswesser, Edward H.
Wolf, Richard S.

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Moyer, Paul W.
Neliman, Lawrence J.
Noll, Charles M.
Paige, Earl H.
Snyder, Fred W.
Starks, Clement A.
Tragle, William G.
Wagenblast, Francis L.
Walley, R. Kenneth
Waltman, Everett F.
Wartluff, William
Wheeler, William A.

Meynbeard, Edward B.
Moyer, Richard B.
Mroz, Chester
Nagle, William H.
Rittenhouse, Donald
Snyder, Paul A.
Sonstig, Herman J.
Stremba, Henry J.
Swaley, John D.
Syatcher, Joseph A.
Terrey, Robert J.
Vagasky, Stephen
Wenzel, Stuart E.
Wertman, Howard
Yeech, William F.