

## PREFACE

The following brief history of the Physics Department at Oregon State University is not meant to be an interesting story-type of history, with anecdotes and characters. Such a treatment would require far more time than is available at present. It is simply a chronicle showing changes and development of the faculty and curricula in all of their ramifications. Most of the information is from the Department's file of catalogs, which goes back to 1908, and from the writer's memory of the Department, which goes back to 1920. It is possible that a few dates, such as when certain faculty members joined the staff, are in error by one year because while in most cases faculty changes appear in the catalog a year after they occur, there are some exceptions during the early years.

The writer is grateful to Professor John Garman for providing the photographic negatives from which the illustrations were made, to Photo Service for making most of the photographic prints and to Professor Grant Feikert for most of the information on the development of radio station KOAC.

E. A. Yunker

A Brief History of the Department of Physics  
at Oregon State University

The Department of Physics at Oregon Agricultural College was started in 1908 with the appointment of Dr. Willibald Weniger as Assistant Professor of Physics by President William Jasper Kerr. Prior to that time two courses in elementary physics were given by the Department of Mechanical Engineering.

Dr. Weniger received his B.A. degree in 1905, his M.A. in 1906, and his Ph.D. in 1908, all from the University of Wisconsin, and then came directly to Oregon Agricultural College. He was at that time the only Ph.D. on the staff of the College.

The courses in physics offered in 1908-09 were: 1 and 2. Physics. Three credits per term. Required for students in Mechanic Arts. 3 and 4. Physics. Four credits per semester. Prerequisite: plane geometry. Required for students in Engineering, Commerce, Pharmacy, and Forestry.

The Physics offices and laboratories were located in Mechanical Hall (now Apperson Hall) where they remained until 1928 when the new Physics Building (now Covell Hall) was completed.

1909-10

Faculty

Mr. Edgar Raymond Shepard, A.M., was appointed Instructor in Physics and Electrical Engineering.

Courses

Course offerings in beginning physics were changed from 1, 2 Physics and 3, 4 Physics to Elementary Physics I, II, Physics I, II and General Physics I, II.

Two new courses, 5. Electricity and Magnetism and 6. Heat and Light, were introduced.

1910-11

Faculty

Dr. Willibald Weniger was advanced from Assistant Professor to Professor.

Courses

Physics I, II was changed to General Physics I, II and General Physics I, II to General Physics III, IV. General Physics V, General Physics VI, General Physics VII and General Physics VIII were added. This was the beginning of a long period in which special courses for special student groups were offered.

A new course, Electrical and Magnetic Measurements, was introduced.

1911-12

Faculty

Professor Willibald Weniger and Mr. Edgar Shepard. The 1911-12 catalog lists a Mr. ---, Instructor.

Courses

No change.

1912-13

Faculty

The 1912-13 catalog lists, for the first time, Mr. William A. Bevan, B.S., Instructor. Mr. Bevan was probably appointed in 1911-12 for the blank position indicated in that catalog. The 1912-13 catalog shows an additional blank position.

Courses

Many changes in course offerings were made. These changes are difficult to follow but resulted in the following: Elementary Physics A, B.; General Physics 5, 6; Engineering Physics 101, 102, 103, 104; Physics for Students in Agriculture 111, 112; Physics for Students in Pharmacy 121, 122; Household Physics 131; Electrical and Magnetic Measurements 201; Electricity and Magnetism 202; Heat and Light 211.

Engineering Physics appears, for the first time, to be carried under various numbers until early 1962.

1913-14

Faculty

The 1913-14 catalog indicates the resignation of Mr. Edgar Shepard, Instructor, and the appointment of Mr. Gilbert Bruce Blair, A.M., Instructor, and Mr. John Harrison Belknap, B.S., Instructor, one to replace Mr. Shepard and the other to fill the blank position indicated in the 1912-13 catalog.

Courses

General Physics 5, 6 was changed to General Physics 111, 112. The special courses, Physics for Students in Agriculture and Physics for Students in Pharmacy, were dropped. Students in Agriculture and Pharmacy then took General Physics.

Two new courses, Illumination, 212, and Wireless Telegraphy, 222, were introduced.

1914-15

Faculty

Dr. Willibald Weniger resigned in 1914 and went to the Nela Research Laboratory of the General Electric Company to do scientific research. Later, when the United States entered World War I, Dr. Weniger's work was devoted to the war effort. His work was mostly in optics and illumination.

Dr. William Ballantyne Anderson was appointed Professor of Physics in 1914 by President Kerr to replace Dr. Weniger as Head of the Physics Department. Professor Anderson received his Ph.D. degree from the University of Wisconsin in 1906. He served on the staff of Iowa State College at Ames, Iowa before coming to Oregon Agricultural College.

Also appointed in 1914, and listed in the 1915-16 catalog in the Department of Physics, is Mr. Lawrence Fisher Wooster, B.S., Assistant Professor of Electrical Engineering. Professor Wooster probably taught the courses in electricity and magnetism. Mr. Bevan was advanced from Instructor to Assistant Professor.

Courses

No changes except for some rearrangements in course numbers.

1915-16

Faculty

Professor Lawrence Wooster evidently went back to Electrical Engineering full-time in 1915-16 since he is not listed in Physics in 1916-17.

The faculty consisted of Professor W. B. Anderson, Assistant Professor William A. Sevan, Mr. Gilbert B. Blair, Instructor, and Mr. John H. Belknap, Instructor.

Courses

A new course, Electrical Physics 105, an advanced course in general physics, was introduced. The course, Illumination, 212, was dropped.

1916-17

Faculty

No change.

Courses

Descriptive Astronomy, 220, was added to be taught by Professor W. B. Anderson. Dr. Anderson was very much interested in Astronomy and taught the course until his retirement in 1939.

1917-18

Faculty

The faculty, as indicated in the 1918-19 catalog, consisted of Dr. W. B. Anderson, Professor and Head, Gilbert B. Blair, Instructor, and Mr. George S. Monk, S.B., Instructor. There was one blank position as instructor.

Mr. John Belknap and Mr. William Sevan, Instructors, were on leave of absence.

Courses

Beginning physics courses were changed to consist of Elementary Physics A, B.; General Physics 1, 2; Engineering Physics 101, 102; Electrical Physics 105; and Household Physics 133, 134, a total of 15 semester hours. Other courses remained unchanged.

1918-19

Faculty

Mr. Gilbert Blair, Instructor, resigned and Mr. William Bevan returned from leave of absence as Assistant Professor. There was one unfilled position of Instructor.

Courses

Electrical and Magnetic Measurements, 201, was dropped.

A course, Signaling and Wireless, was offered, without credit, in connection with military training. Total course offerings are 35 semester hours plus variable credit for two courses.

1919-20

Faculty

Mr. William Bevan, Assistant Professor, resigned.

The faculty, as listed in the 1920-21 catalog consisted of Dr. W. B. Anderson, Professor and Head; Mr. Ardis Monk, Instructor, and the new members Mr. Albert Washington Marker, M.A.; Mr. Robert W. Uphoff, A.B. Instructor, and Mr. Frank Elwood Knowles, M.A., Instructor. Mr. Marker, who joined the Physics faculty in January 1920, received his B.A. degree from North Central College in 1904 and his M.A. from the University of Illinois in 1916. Mr. Uphoff received his degree from the University of Wisconsin. No information is available on Mr. Knowles' education.

Courses

The year 1919-20 marks the beginning of the use of the prefix Phy with course numbers.

Courses were changed so that for 1919-20 the offerings were: Phy 200. Household Physics; Phy 201, 202. General Physics; Phy 111, 112, 113. Engineering Physics; Phy 210. Advanced Engineering Physics; Phy 221, 222, 223. Electrical Physics; Phy 351. Heat and Light; Phy 352. Electricity and Magnetism; Phy 353. Wireless Telegraphy; Phy 290. Descriptive Astronomy. A course in photography appeared for the first time under the title Phy 261, 262. Photography.

1920-21

Faculty

Dr. W. B. Anderson, at his request, was relieved of the headship of the Department. President Kerr invited Dr. Willibald Weniger to return and again become Head. This he did.

The faculty then consisted of Dr. Willibald Weniger, Professor and Head; Dr. W. B. Anderson, Professor; Mr. Robert W. Uphoff, Instructor; Mr. Albert Marker, Instructor; and four new members. These were: Mr. Jacob Jordan (A.M., University of Indiana), Instructor; Mr. Fred Buckner Morgan (B.S., University of Colorado), Instructor; Mrs. Charlotte Skinner Taylor (A.B., Vassar College), Instructor; Mr. Harry Drill (A.B., University of Oregon), Instructor. Mr. Jordan was appointed to build up a program in radio and Mrs. Taylor to teach home economics physics.

Courses

The course number prefix Phy was changed to Ph.

Electrical Physics, Phy 231, 232, 233, was dropped.

1921-22

Faculty

Mr. Robert Uphoff was advanced from Instructor to Assistant Professor in recognition of his program in photography.

Mrs. Charlotte Taylor, Instructor, resigned, and Mrs. Maude Turlay Parr was appointed Instructor to replace her. Mrs. Parr received her bachelor's degree from Oregon Agricultural College.

Courses

The second term of Photography, Ph 262, was changed to Commercial Photography and a new course, Pictorial Photography, Ph 263, added. A new course, Mining Physics, 221, 222, 223 was added. Household Physics was changed to General Physics, Ph 292, 293. A course, General Physics, Ph 121, 122, 123 was added for students in pharmacy and for those planning to study for medicine. A total of 21 terms of physics were offered for a total of 58 term hours, plus two courses giving variable credit.

1922-23

Faculty

No change.

Courses

New courses added were: Advanced Wireless Telegraphy, Ph 542; Advanced Photography, Ph 462; The Physics of Light Production, Ph 472; Photometry, Ph 473; and Recent Developments in Electricity, Ph 481. In all, 72 term credits of physics were offered plus one course of variable credit.

About 1922-23 a service to the institution was started which years later became Photo Service in the Department of Physics. At the time that the courses in photography were started there was very little photographic equipment on the campus. It was thought that a service could be rendered by using the instructional photographic equipment, when not needed for instruction, for photographic work on the campus. At first staff members in Physics did the work, but later competent students who had had a number of courses in photography were employed. This latter practice was for many years an important factor in student employment.

Along about 1940 students available for photographic work decreased in number to the extent that physics staff members again did the photographic work evenings and on week-ends. About 1950 a full-time photographer was employed to operate a photographic service on a self-supporting but non-profit basis. Photo Service, an auxiliary activity of the Physics Department is still operating on this basis (1966) and has grown to three full-time photographers and several assistants. Over the years Photo Service has been self-sustaining and, according to plan and concept, the Physics Department has taken no profit or gain.

1923-24

Faculty

Mr. John Clifton Garman, B.S., was appointed Instructor in Physics to replace Assistant Professor Uphoff, who had resigned, to teach the courses in photography. Mr. Garman received his degree in electrical engineering in 1924 from Oregon Agricultural College.

Mr. Jacob Jordan was advanced from Instructor to Assistant Professor in recognition of his work in building up a program of instruction in radio.



Courses

The courses Mining Physics, Ph 221, 222 and Advanced Engineering Physics, Ph 210 were dropped and Physics 221, 222, 223 was added. The latter was a course in general physics with calculus.

1924-25

Faculty

Changes in staff consist of the resignation of Mrs. Maude Turley Parr, Instructor and the appointment of Mr. Edwin Arthur Yunker, A.B., as instructor starting January 1, 1925. Mr. Yunker received his degree from the University of California.

Courses

The only change in courses, other than in some of the general physics courses, was the introduction of Color Photography, Ph 461 and Commercial Amateur Finishing, Ph 161. The latter was designed for students in pharmacy. Eighty-two term credits of physics were offered.

1925-26

Faculty

No changes in faculty.

Courses

A new course, Rudiments of Photography, Ph 161, 2 credits, intended for students in landscape gardening was added. Other new courses were General Physics, Ph 224, 3 credits, designed to accompany Ph 223; Acoustics, Ph 431, 2 credits, taught by Mr. Morgan; Physical Measurements, Ph 614, 3 credits, for graduate students.

The course Wireless Telegraphy was changed to Radio Communication and Advanced Wireless Telegraphy to Advanced Radio in recognition of the development of radio telephony and the beginning of radio broadcasting.

A seminar course was offered for the first time under the title Seminar, Ph 611, 612, 613, 1 credit, elective, for graduate students.

1926-27

Faculty

Mr. Jacob Jordan was advanced from Assistant Professor to Associate Professor. This was partly in recognition of his pioneering work in the development of radio and radio broadcasting at Oregon State Agricultural College.

Courses

General Physics, Ph 202, 3, for students in home economics, was changed to Ph 200, 5 credits.

1927-28

Faculty

Mr. Fred B. Morgan was granted leave of absence to study for a graduate degree at the University of Pittsburgh.

Mr. Daryl Taylor Potter, B.S., was appointed to the staff as Instructor. He received his degree from Oregon State in 1925.

Mr. Harold Roth Vinyard, B.S., was appointed Fellow in Physics. He received his degree at Oregon State in 1924.

Courses

Engineering Physics, Ph 311, 312, 3 credits each term was expanded to three terms of 3 credits each, and the title changed to Advanced Engineering Physics, Ph 211, 212, 213. It was a second year course in heat, light, and electricity.

The course Photometry, Ph 473, was dropped. Measurements in photometry were included in The Physics of Light Production.

The first recognition of graduate thesis work in physics appeared with the introduction of Ph 691, 692, 693, Thesis and Graduate Study, 3 credits each term.

The designation of (G) and (g) courses, as suitable for graduate credit in physics, first appeared in the 1926-27 catalog.

1928-29

Faculty

Mr. Daryl Potter, Instructor in Physics, resigned. Mr. Wendell C. Wing, B.S., Mr. Charles Arthur Goodwin, and Mr. William Roy Varner, E.E., were appointed Instructors in Physics and Mr. James Madison Morris, B.S., Fellow in Physics. Mr. Morris received his degree from Oregon State in 1928 and Mr. Varner his in 1912, also from Oregon Agricultural College.

Courses

General Physics, Ph 101, 102, was dropped, as was Commercial Amateur Finishing, Ph 161.

General Physics, Ph 224, was changed to Electricity and Light with the same number and content.

The Physics Department was moved, in 1928, from its original quarters in Apperson Hall to a new building called the Physics Building. This building provided considerably expanded space for the Department, including three lecture rooms and twelve (small) rooms for photography. Most of the third, or top floor, was occupied by KOAC. This included three studios built around a central announcers booth, a generator room, office and transmitter room.

A feature of the new physics building was a large seismograph pier on which the seismograph station was later built.

The Physics Building (now Covell Hall) is a three-story brick structure forming, architecturally, the east wing of the Mines building. It has a total floor area of 32,700 square feet. At the beginning it housed the Department of Physics, except for a few rooms in the basement of the Mines Building, the Photographic Service auxiliary of the Physics department and the Departments of Campus Surveying, Sewer Maintenance, Roads and Walks, Fire Protection and Blue Print Service. Most of the third floor was occupied by the offices, studios and transmitter of the State-owned broadcasting station KOAC. The School of Science and Graduate School offices were on the second floor.

1929-30

Faculty

Mr. Fred B. Morgan, Instructor, returned from leave of absence, Mr. James Morris was advanced from Fellow to Instructor in Physics; Mr. Harold Vinyard left to do graduate work at Pennsylvania State University; Mr. Wendell Wing and Mr. Charles Goodwin resigned. Mr. Daryl Muscott Chapin, M.S., was appointed Instructor in Physics; Mr. Benjamin Elijah Harris, B.S., was appointed Teaching Fellow. Mr. Harris received his degree from Oregon State in 1929.

Courses

Engineering Physics, Ph 221, 222, 223 was changed to Ph 101, 102, 103. Thesis and Graduate Study, Ph 691, 692, 693 was changed to Graduate Study and Research and a new course, Graduate Thesis, Ph 694, 695, 696 was added.

1930-31

Faculty

Mr. Fred Morgan, M.S., was advanced from Instructor to Assistant Professor. Mr. E. A. Yunker, Instructor, received his Ph.M. degree from the University of Wisconsin. Mr. Daryl Chapin, M.S., Instructor, and Mr. Benjamin Harris, B.S., Fellow resigned.

Courses

No changes.

1931-32

Faculty

Dr. William Pingry Boynton, Professor of Physics, and Dr. Albert Edward Caswell, Professor of Physics, were added to the staff by transfer from the University of Oregon as a result of the unification of the State System of Higher Education. Professor Boynton received his A.B. degree in 1890, his A.M. in 1893, both from Dartmouth, and his Ph.D. from Clark College in 1897. Later, in 1937 he was awarded the Sc.D. from the University of Oregon. Professor Caswell received his A.B. degree in 1908 and his Ph.D. in 1911 from Stanford University.

Assistant Professor Fred Morgan was transferred to the University of Oregon as a part of the unification of the System. Mr. Albert Marker, Instructor, resigned to establish his own optometry business in Corvallis. Mr. Harry T. Drill, Mr. William Varner, and Mr. James Morris, Instructors, resigned. Mr. Jacob Jordan went on leave of absence.

Courses

The course Ph 121, 122, 123, General Physics, for students in Pharmacy, was dropped as was Ph 224, Electricity and Light. A course Ph 314, General Physics, was added as a continuation of Ph 211, 212, 213.

1932-33

Faculty

Mr. Edwin Yunker was advanced from Instructor to Assistant Professor.

Courses

With the allocation of graduate work in physics to Oregon State Agricultural College the 1932-33 catalog introduces a list of graduate courses under 500 numbers. These include Research and Investigation, Ph 501; Graduate Thesis, Ph 503; Reading and Conference, Ph 505; Seminar, Ph 507; Potential Theory, Ph 521; Theory of Elasticity, Ph 522; Advanced Mathematical Physics, Ph 524, 525, 526; Hydrodynamics, Ph 527, 528; Advanced Electrical Theory, Ph 531, 532, 533; Advanced Electrical Laboratory, Ph 534, 535, 536; Theory of Heat, Ph 551, 552, 553; Spectroscopy, Ph 561, 562; Modern Physical Theories, Ph 571, 572, 573; Quantum Mechanics, Ph 576; Ionization of Gases, Ph 577; X-rays, Ph 578; Radioactivity, Ph 579; Cosmic Physics, Ph 591, 592; Geophysics, Ph 593.

Changes in the undergraduate courses included the designation of lower division and upper division categories. Changes were: the addition of Physical Science Survey, Ph 101, 102, 103; General Physics, Ph 114; General Physics, Ph 201, 202, 203; General Physics, Ph 205, 206; Advanced Physics, Ph 211, 212, 213; Photography, Ph 261, 262, 263; Laboratory Arts, Ph 281; Meteorology, Ph 291; Analytical Mechanics, Ph 321, 322, 323; Radio Communication, Ph 331, 332, 333; Electrical Measurements, Ph 334, 335, 336; History of Physics, Ph 381; General Astronomy, Ph 391, 392, 393; Physical Optics, Ph 461; Introduction to Modern Physics. A number of courses of content similar to the courses above listed were dropped.

Because of the allocation of major and graduate work in physics to Oregon State the course offerings were increased from 70 credits in 1931-32 to 232 credits in 1933-34, not counting 7 "term and hours to be arranged" courses, but because of the depression the staff was cut from twelve in 1930-31 to six in 1932-33.

1933-34

Faculty

Mr. Fred B. Morgan, Assistant Professor, was brought back from the University of Oregon and Dr. Albert Caswell was transferred back to the University of Oregon. Mr. William Varner, M.S., E.E., was re-appointed Instructor in Physics. Mr. John Garman was advanced from Instructor to Assistant Professor.

Courses

The course offerings were again greatly changed. The Department was still in the process of laying out a program for major undergraduates and graduates in physics. This was difficult because of the changes brought about by the unification of the State System of Higher Education. One problem was that the staff consisted of only six members while 258 credits plus seven "terms and hours to be arranged" courses were offered.

The 1933-34 courses were: Physical Science Survey, Ph 101, 102, 103; Engineering Physics, Ph 111, 112, 113; Rudiments of Photography, Ph 161; General Physics, Ph 201, 202, 203; Astronomy and Meteorology, Ph 291, 292, 293; Physical Measurements, Ph 311, 312, 313; Radio Communications, Ph 331, 332, 333; Acoustics, Ph 343; Photography, Ph 361, 362, 363; Laboratory Arts, Ph 380; History of Physics, Ph 381; Practical Astronomy, Ph 396; Research Ph 401; Thesis, Ph 403; Advanced Studies, Ph 405; Seminar in Current Topics, Ph 407; Classical Theories, Ph 411, 412, 413; Advanced Photography, Ph 461, 462, 463; The Physics of Light Production, Ph 464; Introduction to Modern Physics, Ph 471, 472, 473; Modern Physics Laboratory, Ph 474, 475, 476; Graduate Research, Ph 501; Graduate Thesis, Ph 503; Graduate Studies, Ph 505; Graduate Seminar in Current Topics, Ph 507; Advanced Mathematical Physics, Ph 524, 525, 526; Advanced Electrical Theory, Ph 531, 532, 533; Advanced Electrical Laboratory, Ph 534, 535, 536; Theory of Heat, Ph 551, 552, 553; Optics, Ph 561, 562, 563; Modern Physical Theories, Ph 571, 572, 573; Quantum Mechanics, Ph 576; Cosmic Physics, Ph 591, 592; Geophysics, Ph 593.

In all, the course offerings seem far too ambitious for the small staff, but economic conditions evidently would not permit a larger one.

1934-35

Faculty

No change.

Courses

A new course, Qualitative Physics, Ph 211, 212 was introduced; Classical Theories, Ph 411, 412, 413 was dropped and Introduction to Theoretical Physics, Ph 411, 412, 413 was added.

1935-36

Faculty

Mr. William Varner was advanced from Instructor to Assistant Professor.

Courses

No change.

1936-37

Faculty

Two Graduate Assistants were appointed to the Physics staff and first listed in the catalog in 1937-38. This marks the beginning of the development of a program of graduate students working on their advanced degrees and teaching in the beginning courses in physics. These assistants were Mr. Duis Bolinger, B.S., who later joined the staff as instructor, and Mr. William Hickman Moore, B.A.

Courses

A course, Household Physics, Ph 214, was added for the benefit of students in Home Economics. Modern Physics Laboratory, Ph 474, 475, 476, was dropped.

1937-38

Faculty

Dr. William Boynton retired and moved to California. Dr. James Joseph Brady was appointed Assistant Professor of Physics. Dr. Brady received his B.A. degree from Reed College in 1927, his M.A. in 1928 from the University of Indiana, and the Ph.D. from the University of California at Berkeley in 1937. Before coming to Oregon State he served on the faculty at St. Louis University.

Another appointment was Mr. William Curtis Reid, M.S., Instructor in Physics. Mr. Reid received his B.A. in 1929 from Willamette University and his M.S. in 1932 from New York University.

Mr. Cyril Feldstein, B.S., and Miss Chung Kwai Lui, M.S., were appointed Graduate Assistants to make a total of four.

Assistant Professor E. A. Yunker was granted a sabbatical leave, to be followed by a leave of absence, to study for the doctorate at Stanford University. The courses in radio were taught by Mr. William Barclay, of the Electrical Engineering Department, during Professor Yunker's absence.

Courses

The course, Fundamentals of Radio, Ph 330, was added to serve departments whose students would later use radio equipment.

1938-39

Faculty

Dr. Harold Roth Vinyard returned to the staff as Instructor in Physics after receiving his Ph.D. degree from Pennsylvania State University.

Mr. William Moore resigned as Graduate Assistant and was replaced by John Duncan Todd, B.A.

Courses

No change.

1939-40

Faculty

Dr. James J. Brady was advanced from Assistant Professor to Associate Professor. Dr. Edwin A. Yunker returned from leave of absence at Stanford University where he received his Ph.D. degree. He was advanced from Assistant Professor to Associate Professor. Dr. W. R. Varner and Dr. Curtis Reid received their Ph.D. degrees from Oregon State University. Mr. Cyril Feldstein and Mr. John Todd, having completed their graduate work, resigned their graduate assistantships and were replaced by Mr. Hubert Waterbury Anderson, B.S., and Mr. Jamie Lindsay Shumway. Mr. Hubert Anderson is the son of Professor W. B. Anderson.

Courses

The course, History of Physics, Ph 381, was changed to History and Philosophy of Physics, Ph 582, and raised to graduate level. A course in Conduction of Electricity Through Gases was added, to be taught by Dr. J. J. Brady. Gaseous electronics was one of Dr. Brady's principal fields of interest.

1940-41

Faculty

Dr. William Ballantyne Anderson was listed as Professor Emeritus. Assistant Professor Fred Morgan was granted sabbatical leave to study. Mr. Duis Bolinger, Graduate Assistant, resigned to go to Stanford University for graduate study. Mr. Logan E. Anderson, B.S., was appointed the first Research Assistant in the Department. Mr. Cleo C. Byers, B.A., and J. Kenneth Trolan were appointed Graduate Assistants. Miss Chung Kwai Lui was advanced to Graduate Fellow in Physics.



The Department's participation in the war effort began when Associate Professor Yunker was sent to the Massachusetts Institute of Technology for a short course in microwaves. Upon his return to O.S.C. he built equipment and organized a course in microwaves which he gave in the Department of Electrical Engineering.

#### Courses

Household Physics, Ph 214, was dropped. Introduction to Theoretical Physics was raised in level and changed to Ph 521, 522, 523. A new course, Light (Geometrical and Physical Optics), Ph 465, 466 was added. Advanced Electrical Laboratory, Ph 534, 535, 536 was dropped.

1941-42

#### Faculty

Dr. James J. Brady, Associate Professor, was on leave of absence to the Radiation Laboratory of the Massachusetts Institute of Technology where he served as Assistant Leader of the Antenna Group. The Radiation Laboratory worked principally on research and development of microwave radar.

Dr. E. A. Yunker, Associate Professor, took leave of absence to join the Radio Research Laboratory of Harvard University where he served as Head of the Transmitter Division. The Radio Research Laboratory's chief mission was radar countermeasures.

Assistant Professor Morgan returned from sabbatical leave. Miss Chung Kwai Lui was advanced from Graduate Fellow to Acting Instructor.

#### Courses

Household Physics, Ph 214, was reintroduced after having been dropped. A course in Meteorology, at the graduate level, Ph 591, was added and the title of Cosmic Physics changed to Astrophysics.

1942-43

#### Faculty

Dr. E. A. Yunker was advanced from Associate Professor to Professor. Dr. Albert W. Schlechten was appointed Acting Associate Professor of Physics. Dr. W. R. Varner was advanced from Assistant Professor to Associate Professor, Dr. H. R. Vinyard from Instructor to Assistant Professor, and Dr. W. C. Reid from Instructor to Assistant Professor. Mr. J. M. Morris and Mr. G. T. Kuntz were appointed Acting Instructors in Physics.

Graduate and other assistants are no longer listed in the College catalog.

Courses

No change.

1943-44

Faculty

Dr. H. R. Vinyard was granted leave of absence to go to the Harbor School of the Massachusetts Institute of Technology where he taught radar to the armed services.

Acting Associate Professor Schlechten resigned from the Department. Mrs. Louise Vinyard was appointed Acting Assistant Professor. Acting Assistant Professor W. C. Reid resigned. Instructors Mr. G. T. Kuntz and Miss C. K. Lui resigned. Mr. Clarence L. Church, Rachael Adelia LaRoe, and Mr. Albert Marker were appointed Acting Instructors to assist in the war effort in the various service related physics programs. Mr. Church received his A.B. degree from Willamette University in 1927 and his M.A. from the University of Southern California in 1936.

Courses

No changes.

1944-45

Faculty

Dr. Richard R. Dempster was appointed Acting Associate Professor. Dr. Dempster received his A.B. degree in 1930, his M.A. in 1931, and his Ph.D. in 1942, all from the University of California.

Acting Instructors Mr. C. L. Church, Adelia LaRoe, and Mr. J. M. Morris resigned, leaving Mr. Albert Marker the only instructor.

Courses

No change.

1945-46

Faculty

Dr. James J. Brady returned from the Radiation Laboratory of the Massachusetts Institute of Technology, Dr. Harold Vinyard from the Harbor School of Massachusetts Institute of Technology, and Dr. E. A. Yunker from the Radio Research Laboratory of Harvard University. All three of these men were on leave for civilian war service. Dr. Yunker received a War Department and Navy Department citation for an outstanding contribution to the work of the Office of Scientific Research and Development.

Dr. James J. Brady was advanced from Associate Professor to Professor. Dr. Richard Dempster was made Associate Professor from the Acting position.

Mr. Albert Marker resigned as Instructor during the war years, and Mrs. Mildred L. Bennett (B.S., Oregon State, 1942), Mr. J. Kenneth Trolan (B.A., Linfield, 1939) and Mr. Virgil P. Barta (B.S., Oregon State, 1942) were appointed Acting Instructors.

Courses

Astronomy and Meteorology, Ph 204, 205, 206 was divided into Astronomy, Ph 204, Meteorology, Ph 205, and Astronomy, Ph 206.

1946-47

Faculty

Acting Instructor, Mrs. Mildred Bennett resigned, Acting Instructors, Mr. J. Kenneth Trolan and Mr. Virgil Barta were advanced to Instructor and new Instructors, Mr. Cleo C. Byers (B.A., Coe College, 1939, returned from previous appointment), Mr. John A. Day (B.A. Colorado College, 1936; Certificate of Meteorology, Boeing School of Aeronautics, 1937), Mr. Fred W. Decker (B.S., Oregon State, 1940; M.S., New York University, 1943), Mr. Stuart G. Forbes (B.S., Oregon State, 1941), Mr. Russell L. Lincoln (B.S., Iowa State, 1938; B.S. Meteorology, New York, 1944), Mr. Robert W. Prather (B.S., Oregon State, 1943) were appointed Instructors. Mrs. Louise Vinyard was reappointed as Instructor. There was one Teaching Fellow, Mr. William Jewell.

Mr. Day, Mr. Decker, and Mr. Lincoln were appointed to develop work in meteorology.

Courses

Engineering Physics was changed from Ph 111, 112, 113 to Ph 101, 102, 103. A new course, Biophysics, (G), Ph 411, 412, 413, taught by Dr. Dempster, was introduced. Physics Problems, Ph 207, 208, 209, was also added.

1947-48

Faculty

Mr. Virgil Barta, Instructor, resigned. Mr. William R. Jewell (B.S., Illinois, 1925; M.S., Colorado, 1945) and Mr. Maynard D. Pearson (A.B., Whitman, 1943) were appointed Instructors.

Courses

Qualitative Physics, Ph 211, 212 was changed to Abridged General Physics and Physics Problems, Ph 207, 208, 209 was renumbered to Ph 317, 318, 319. Radio Communications, Ph 331, 332, 333, was changed to Electronics and Radio, Ph 331, 332, 333. Acoustics, Ph 343, was changed to Sound, Ph 541 and raised in content to the graduate level. The course, Laboratory Arts, Ph 380 was also raised to the graduate level and given the number Ph 511. Practical Astronomy, Ph 396 was dropped. A new course, Atomic and Nuclear Physics (G) was introduced under the number Ph 421, 422, 423. Experimental Electronics and High Frequency measurements, (G) Ph 431, 432, 433, was also added.

Expansion in meteorology was started with the addition of Introduction to Modern Meteorology (G), Ph 492, and the change of Meteorology, Ph 591, to Physical Meteorology.

Advanced Mathematical Physics, Ph 424, 425, 426 was dropped.

1948-49

Faculty

Mr. Duif: Donald Bolinger was appointed Assistant Professor. Mr. Bolinger received his B.S. degree from Missouri in 1930 and his M.S. from Oregon State in 1938. His special field of interest was x-rays.

Mr. J. Kenneth Trolan, Instructor; Mr. Stuart Forbes, Instructor; and Mr. William Jewell, Instructor, resigned. New appointments as Instructor included; Mr. Clarence Edward Egan, Jr. (B.S., 1948, Oregon State); Mr. Joseph William Griffith (B.A., Reed, 1948); Mr. Jack Ingral Hagen (B.S., Oregon State, 1948); Mr. George H. Hare (A.B., Fresno State, 1942); Mr. Sam Ray Peoples (B.S., Oregon State, 1947); Mr. Jack Carter Riley (B.S., Oregon State, 1943). Mr. Griffith, Mr. Hagen, Mr. Hare, Mr. Pearson, Mr. Peoples, and Mr. Riley were employed in sponsored research and did not teach.

Mr. R. W. Crews and Mr. T. F. Wang were appointed Teaching Fellows.

Courses

Astronomy, Ph 204; Basic Meteorology, Ph 205; and Astronomy, Ph 206 were recombined into Astronomy, Ph 204, 205, 206 as it was about two years earlier. Basic Meteorology, Ph 490, was added.

1949-50

Faculty

Dr. Willibald Weniger, who started the Department of Physics in 1908 and who was Head of the Department since then, except for a few years during World War I, was retired as of June 30, 1949, having reached the mandatory age of retirement. Dr. Edwin A. Yunker, Professor of Physics, a member of the Department since 1925, was appointed Chairman. Dr. Weniger continued on the staff.

Mr. Fred B. Morgan was advanced from Assistant Professor to Associate Professor.

Instructors Mr. Jack Hagen, Mr. George Hare, and Mrs. Luise Vinyard resigned. Mr. Vernon Edgar Golden (B.S., Lewis and Clark, 1949) was appointed for research on a sponsored project.

Graduate Assistants Mr. Brock and Mr. Webster completed their graduate work and left; Mr. Astley and Mr. Wang were appointed Graduate Assistants.

Courses

Rudiments of Meteorology, Ph 191, was added. Physics Problems, Ph 317, 318, 319 was modified and changed to Mechanics, Ph 314, 315, and Physical Measurements, Ph 331, 332, 333, was changed to Electrical Measurements, Ph 331, 332, 333. A new course, Heat Measurements, Ph 353, was added. X-rays, Ph 434, was added in recognition of Dr. Bolinger's special interest.

Among the graduate courses, Advanced Electrical Theory, Ph 531, 532, 533 was changed to Electromagnetic Theory, Theory of Heat, Ph 551, 552, 553 was changed to Thermodynamics and Ph 551, Kinetic Theory to Ph 552. A new course, Neutron Physics and Nuclear Reactors, Ph 573, was introduced.

1950-51

Faculty

Mr. John C. Garman was advanced from Assistant Professor to Associate Professor.

Dr. David Bowman Nicodemus was appointed Assistant Professor. Dr. Nicodemus received his A.B. degree from De Pauw in 1937 and his Ph.D. from Stanford in 1946. His principal field of interest is nuclear physics. He was a physicist at Los Alamos Scientific Laboratory during the war and Acting Assistant Professor at Stanford before coming to Oregon State.

Dr. Duis Bolinger, Assistant Professor, received his Ph.D. degree from Stanford University.

Mr. Clarence E. Egan, Instructor, resigned to enter divinity school. Mr. Edgar Golden, Mr. Joseph Griffith, Mr. Robert Prather, and Mr. Jack Riley, Instructors, resigned. Most of these men had been employed on sponsored research.

Mr. William Charles Maillard (A.B., 1946, California; M.S., 1950, Oregon State) and Mr. Bayard Fenton Walker (B.S., 1950, Oregon State) were appointed Instructors.

#### Courses

No change.

1951-52

#### Faculty

Dr. Willibald Weniger, Professor of Physics, retired and accepted an appointment as Head of the Department of Physics at the University of Alaska.

Dr. Richard Dempster and Dr. William Varner were advanced from Associate Professor to Professor. Associate Professor Fred Morgan retired. Mr. Clarence L. Church was advanced from Instructor to Assistant Professor.

Mr. Maynard Pearson and Mr. Sam Peoples, Instructors (on sponsored research), resigned. Both completed work for the Ph.D. degree at Oregon State and both went to the Boeing Research Laboratory.

A new appointment, as Acting Instructor, was Mr. Glen M. Stanley (B.S., 1950, Oregon State). Mr. Stanley, during part of his stay at Oregon State, served as electron microscopist, operating the new RCA electron microscope which was purchased jointly by the School of Science and the School of Agriculture and assigned to the Physics Department for maintenance and operation.

#### Courses

The course Household Physics, Ph 214, was dropped.

1952-53

#### Faculty

Dr. Duis Bolinger and Dr. David Nicodemus were advanced from Assistant Professor to Associate Professor.

Acting Instructor William Maillard completed his graduate work and resigned. Mr. Glen Stanley, Acting Instructor, resigned to accept an instructorship at the University of Alaska.

Four graduate assistants were appointed, an increase from one in 1951-52.

#### Courses

The course Light, Ph 465, 466 was changed to Geometrical and Physical Optics.

Physical Meteorology, Ph 491, and Introduction to Modern Meteorology, Ph 492, were combined and expanded to Meteorology, Ph 491, 492, 493.

Two new graduate courses, Physics of the Solid State, Ph 514, to be taught by Dr. Brady, and Relativity, Ph 515, to be taught by Dr. Dempster, were added.

Neutron Physics and Nuclear Reactors, Ph 573, was changed to Nuclear Physics. History and Philosophy of Physics was dropped (to be given by the Department of General Science), Astrophysics, Ph 592, was dropped, and Geophysics, Ph 593, changed to Seismology.

1953-54

#### Faculty

Dr. Fred W. Decker was advanced from Instructor to Assistant Professor. Mr. Russell L. Lincoln, B.S., Instructor, was transferred to Research Associate to devote his full time to a sponsored research project in meteorology.

#### Courses

Electrical Measurements, Ph 331, 332, 333, was changed to Electricity and Magnetism and Heat Measurements, Ph 353, was changed to Heat. Geometrical and Physical Optics was reduced to Ph 365, 366; Basic Meteorology, Ph 490, was reduced to Ph 390.

A new course, Spectroscopy, Ph 468, was added to be taught by Dr. Bolinger.

1954-55

#### Faculty

Dr. George Lockwood Trigg was appointed Assistant Professor. Dr. Trigg received his A.B. (1947), A.M. (1950), and Ph.D. (1951) from Washington University, the latter in theoretical physics. He served on the faculty at Knox College before coming to Oregon State.

Mr. Bayard Walker, Instructor, resigned and Mr. Arthur Richard Tynes (B.S., 1950, Montana State; M.S., 1953, Oregon State) was appointed Instructor. A total of seven graduate assistants was appointed.

#### Courses

No change.

1955-56

#### Faculty

Dr. William Pingry Boynton, Professor Emeritus of Physics, died.

Dr. Larry Schecter was appointed Assistant Professor. Dr. Schecter received his A.B. (1948), M.A. (1951), and Ph.D. (1953) degrees, the latter in nuclear physics, from the University of California at Berkeley.

Mr. John Day, Instructor, went on leave of absence to teach at the University of Redlands.

One additional graduate assistant was appointed making a total of eight in the Department.

Dr. Duis Bolinger was on detached duty in the Physics Department at Kasetsart University in Thailand as part of Oregon State's program of cooperation under the U. S. State Department's International Cooperation Administration.

#### Courses

Modern Physical Theories, Ph 516, was dropped; a new course, Selected Topics in Theoretical Physics, Ph 574, was added to be taught by Dr. Trigg. Because of the new cyclotron, and resulting opportunities for experimental work in nuclear physics, a course Experimental Nuclear Physics, Ph 575, was added.

1956-57

#### Faculty

Dr. David Nicodemus took leave of absence to be a physicist on the staff and to carry on research at the Los Alamos Scientific Laboratory. Dr. Harold Vinyard was on leave of absence to Convair, in San Diego, where he held the position Senior Physicist on Research and Development.



Mr. Raymond Walter Sommerfeldt (B.S., 1951, Oregon; M.S., 1954, Oregon State) was appointed Instructor.

Five Teaching Fellows were appointed, some by advancement from Graduate Assistants. Four Graduate Assistants were appointed.

#### Courses

No change.

1957-58

#### Faculty

Dr. William Ballantyne Anderson, Professor Emeritus of Physics, died at his home in Corvallis,

Dr. Duis Bolinger, Dr. David Nicodemus, and Dr. Harold Vinyard returned from leave of absence.

Dr. James Tracy Arnold was appointed Assistant Professor. Dr. Arnold received his A.E. degree in 1942 from Oberlin and his Ph.D. in 1954 from Stanford. His field of interest at that time was nuclear magnetic resonance.

There was a total of thirteen fellows and teaching assistants.

#### Courses

Engineering Physics, Ph 101, 102, 103, was renumbered Ph 207, 208, 209, and shifted to the sophomore year in the School of Engineering curricula.

Rudiments of Photography, Ph 161, was dropped.

1958-59

#### Faculty

Dr. David S. Burch was appointed Assistant Professor. Dr. Burch received his B.S. (1950), M.S. (1954), and Ph.D. (1956) from the University of Washington. Before coming to Oregon State he was a research physicist with the U. S. Bureau of Standards in Washington, D.C. His principal field of interest is atomic physics.

Dr. James Arnold resigned, after a year of teaching, and joined the staff of Varian Associates in Palo Alto.

There were fourteen fellows, research assistants, and graduate assistants.

Courses

Electronics and Radio, Ph 337, 338, 339 was changed to Ph 437, 438, 439; Geometrical and Physical Optics, Ph 365, 366, to Ph 465, 466.

A new course, Synoptic Meteorology, Ph 391, 392, 393, was added as was Electronics, Ph 430.

Physics of the Solid State, Ph 514, was expanded and changed to Ph 578, 579. Quantum Mechanics, Ph 517, 518 was expanded to Ph 517, 518, 519.

1959-60Faculty

Dr. Willibald Weniger, Professor Emeritus of Physics, died in Corvallis. Dr. Weniger started the Department of Physics in 1908 and was its first head. Except for several years during the First World War he was Head until his retirement in 1949. He was also Oregon State's first Dean of the Graduate School. The new Physics-Chemistry building at Oregon State has been named Weniger Hall in his honor. The Physics Library is named the Willibald Weniger Memorial Library.

Dr. William R. Varner, Professor of Physics retired.

Dr. Fred W. Decker and Dr. Larry Schecter were advanced from Assistant Professor to Associate Professor. Dr. Duis Bolinger, Associate Professor, resigned in order to retire.

Dr. Robert Neagle Forrest was appointed Assistant Professor. Dr. Forrest received his B.S. (1950), M.S. (1952) and Ph.D. (1959) from the University of Oregon.

There were nineteen Research Assistants, Research Associates and Graduate Assistants, up five from the previous year.

Courses

No change.

1960-61Faculty

Dr. George L. Trigg was advanced from Assistant Professor to Associate Professor.

Dr. Harry Tyson Easterday was appointed Assistant Professor. Dr. Easterday received his A.B. (1947) and Ph.D. (1953) from the University of California at Berkeley. His special field of interest is experimental nuclear physics. He was a member of the physics faculty at the University of Oregon before coming to Oregon State.

Mr. William P. Lowry (A.B., 1950, University of Cincinnati; M.S., 1955, Wisconsin) was appointed Acting Assistant Professor, part-time, to teach a course in meteorology.

Mr. Raymond Sommerfeldt changed from Instructor to Research Assistant. Mr. Merlin Frank Anderson, Mr. Lamar Coleman, Mr. James Newstead and Mr. John Skinner were appointed Instructors for either teaching or research.

#### Courses

Heat, Ph 353, was changed to Thermodynamics and Heat Measurements. Introductory Field Theory, Ph 477, 478, 479 was introduced. Laboratory Arts, Ph 510, was dropped.

1961-62

#### Faculty

Dr. Harry T. Easterday was advanced from Assistant Professor to Associate Professor.

Mr. John Fletcher Tatom (B.S., 1930, U. S. Naval Academy; M.S. 1939, California Institute of Technology; Captain, Retired, U.S. Navy) was appointed Instructor.

Instructor Merlin F. Anderson completed his graduate work and resigned and Mr. Lamar Coleman changed to Research Assistant. Mr. John Skinner and Mr. Arthur Tynes, Instructors, completed their work for the Ph.D. and resigned.

There were thirty-one teaching and research assistants and fellows, ten more than for the previous year.

#### Courses

Mechanics, Ph 324, 325, 326 was changed in number to Ph 424, 425, 426. Experimental Electronics and High Frequency Measurement, Ph 431, 432, 433 was changed to Experimental Electronics. Physics of the Solid State, Ph 578, 579 was changed to Introduction to Solid State, Ph 547, 548. The number for Conduction of Electricity Through Gases was changed from Ph 537 to Ph 549.

1962-63

Faculty

Dr. Richard Roy Dempster, Professor of Physics died.

Mr. Ralph Alexander Jack was appointed Professor of Physics for a one-year term to replace Professor Dempster. Professor Jack received his A.B. degree in 1922 from Pacific University and his M.A. from the University of California. He was Chairman of the Physics Department of Fresno State College and had retired from this position.

Dr. David Burch was advanced from Assistant Professor to Associate Professor.

Dr. George Trigg resigned to become Assistant Editor of the Physical Review.

Dr. Larry Schecter was on sabbatical leave to Saclay in France to do research in low energy nuclear physics.

Dr. Clifford Eugene Fairchild was appointed Assistant Professor. He received his B.A. degree from Fresno State College in 1956 and his Ph.D. from the University of Washington in 1962. Dr. Fairchild's field of special interest is atomic physics.

Another appointment at the Assistant Professor level was Dr. William Luther Pierce. Dr. Pierce received his B.A. degree from Rice Institute in 1955, his M.A. in 1958, and Ph.D. in 1962 from the University of Colorado. Dr. Pierce's research field is solid state physics.

Mr. Raymond Sommerfeldt and Mr. John F. Tatom were advanced to Assistant Professor.

Mr. James Newstead, Electron Microscopist, resigned.

With the resignation of Mr. Newstead and the advancement of Mr. Sommerfeldt and Mr. Tatom there are no more instructors in the Physics Department. Because of the demand for physicists it is almost impossible to obtain competent staff at the instructors level.

There are now forty-five research associates, research assistants and graduate assistants, fourteen more than for the previous year.

Courses

Engineering Physics, Ph 207, 208, 209, was changed to General Physics.

The course, Biophysics, Ph 414, 415, 416, was dropped.

Two new courses in meteorology, Radar Meteorology, Ph 494, 495, and Synoptic Meteorology, Ph 497, 498, 499, were added.

1963-64

Faculty

Dr. David B. Nicodemus was advanced from Associate Professor to Professor and appointed Assistant Dean of the School of Science, half time. He spent the other half time in physics.

Dr. Olaf Alexander Boedtker was appointed Associate Professor. Dr. Boedtker received his B.S. degree from the Swiss Federal Institute of Technology in 1949, his M.S. in 1958 and his Ph.D. in 1961 from the California Institute of Technology. His field of research interest is solid state.

Another appointment was that of Dr. Melvin Cutler as Associate Professor. Dr. Cutler received a B.S. degree from the City College of New York in 1943, an A.M. in 1947 and a Ph.D. in 1951 from Columbia University. He was a physicist for General Atomic in San Diego doing research in solid state before coming to Oregon State.

Mr. John Tatom was advanced from Assistant Professor to Associate Professor.

Dr. Larry Schecter, Associate Professor, returned from sabbatical leave.

Dr. Victor Arviel Madsen and Mr. Timothy G. Kelley were appointed Assistant Professors. Dr. Madsen received his B.S. in 1953 and his Ph.D. in 1961 from the University of Washington. Before coming to Oregon State he was on the faculty at Case Institute of Technology. Professor Kelley has a B.S. degree from the University of Washington and was completing his Ph.D. degree at the time he came to Oregon State.

Dr. Robert H. Forrest resigned to accept a teaching position at the Naval Graduate School at Monterey, California.

There were forty-one research associates and assistants and graduate assistants.

Courses

Introductory Modern Physics, Ph 213, was added for the benefit of students in engineering.

Two new courses, Atomic Reactions, Ph 584, 585, 586 and Plasmas in Gases and Solids, Ph 587, 588, 589 were introduced.

1964-65

Faculty

Dr. Larry Schecter was advanced from Associate Professor to Professor. Dr. Chris Dan Zafiratos was appointed Assistant Professor.

Dr. Zafiratos received his B.S. degree from Lewis and Clark in 1957 and his Ph.D. in 1962 from the University of Washington. Before coming to Oregon State, he was a staff physicist at Los Alamos Scientific Laboratory.

Dr. David Nicodemus was made Acting Dean of the School of Science upon the illness and resignation of Dean Vernon Cheldelin.

Mr. Laurence David Mendenhall (B.S., 1960 and M.S., 1961 from Oregon State) was appointed Instructor to teach meteorology.

Dr. Fred Decker, Associate Professor, was on sabbatical leave visiting schools and laboratories dealing with meteorology in Europe.

#### Courses

Introduction to Theoretical Physics, Ph 511, 512, 513 was changed to Ph 471, 472, 473 (G). Statistical Mechanics, Ph 523, Thermodynamics, Ph 557 and Kinetic Theory, Ph 558 were combined into Statistical Thermophysics, Ph 557, 558, 559.

A new course, Quantum Field Theory, Ph 567, 568, 569 was added.

1965-66

#### Faculty

Dr. E. A. Yunker, Professor, resigned as Chairman of the Physics Department to devote full-time to teaching. Dr. Yunker was on sabbatical leave during the fall term of 1965-66.

Dr. James J. Brady, Professor, was appointed Acting Chairman.

A new Chairman, Dr. McAllister Hobart Hull has been appointed to take over the administration of the Department starting in July, 1966. Dr. Hull received his B.S. degree in 1948 and Ph.D. in 1951, both from Yale University. Before coming to O.S.U., he was Associate Professor of Physics and Director of Graduate Studies at Yale.

Dr. David E. Bilhorn was appointed Acting Assistant Professor for a one year term. Dr. Bilhorn received his B.A. degree in 1955 from Williams College, his M.A. in 1958 from the University of Rochester and his Ph.D. in 1962 from Rice Institute. Dr. Bilhorn's principal field of interest is nuclear physics. Before coming to O.S.U. he was self-employed in writing.

Dr. Allen L. Wasserman was appointed Assistant Professor. Dr. Wasserman received the B.S. degree from Carnegie Institute of Technology in 1956 and his Ph.D. from Iowa State University in 1963. From 1963 to 1965 he was a post-doctoral Research Associate at Princeton University. Dr. Wasserman's principal research interest is in theoretical solid state.

The course Experimental Electronics, Ph 434, 435, 436 was dropped