GENERAL INDEX

Academic appointments:
  administrative, 150, 152, 154
  competition for, 283, 285–286, 464–465
  faculty, 149, 283–290
  see also Sovmestitel'stvo
Academic chairs (*kafedry*):
  definition of, 153
  rule on designation of, 149
  specialization by, 221
Academic degrees:
  central control in conferring, 150
  distribution of faculty members by, 284
  examples of designations, 388 n.
  Learned Council and, 164
  Soviet vs. American, 390–394
  titles vs., 282 f.
  see also Candidate of Sciences; Doctor of Sciences
Academic (Learned) Council:
  composition and functions of, 163–165
  faculty appointments and, 283–284
  graduate enrollment and, 377 n.
Academic mortality:
  correspondence student, 197–201
  undergraduate resident student, 194 f., 340 f.
"Academic plan" (*uchebnyi plan*):
  aspirantura, 378–379
  broader specialization and, 255
  definition of, 209
  elective subjects and, 219–221
  fields of specialization and, 214, 219
  for graduate students, 378–379
"Academic plan" (*uchebnyi plan*):
  formulation of, 210–213, 302
  recent trends and, 276 f.
  textbooks and, 312 f.
  see also Class hours; Curricula
Academic positions (*dolzhnosti*):
  competition for, 464–465
  titles and, 282
Academic titles (*zvaniya*):
  advanced degrees and, 282
  distribution of teaching personnel by, 283
  regulations on, 460–461
  selection for, 164
  teaching positions and, 282
Academicians:
  earnings of, 306 f.
  on the teaching staff, 291
Academies of sciences:
  other than USSR, 368 n.
  see also Academy of Sciences, USSR
Academy of Armored-Tank and Mechanized Troops:
  cited, 141
Academy of Artillery Sciences:
  cited, 141
Academy of Pedagogical Sciences, RSFSR:
  polytechnic instruction and, 31
  publications of, 28, 35
  school syllabi and, 69, 73
Academy of Sciences, USSR:
  earnings by members of, 306 f.
  Five Year Plans and, 373
  graduate training and, 296

Academy of Sciences, USSR:
history of, 369
major departments of, 468
research in physics and, 256
research role of, 368, 371
teaching by members of, 291
Accelerated programs of instruction:
engineering specialties, 192
teacher training, 46
Ukrainian ten-year school plan of, 53 f.
Administration:
institutions of higher education, 145–165
technicums, 115–117
Administration of Popular and Training Scientific Films:
visual aids and, 330
Administrative functions:
Committee on the Higher School, 148–150
Higher Attestation Commission, 150
Administrative officers:
schools of higher education, 152–153
Admission policy:
facilities and, 335
graduate training, 363, 374–376, 378
higher education, 15, 113–114, 171–173
influence of nonacademic factors, 187–190
institutional quotas and, 187
national quota and, 398
"Party-Thousands" and, 130
preference to those with work experience, 171
technicums, 101, 120, 455
see also Applications for admission; Applicant-admissions ratio; Admission requirements
Admission quotas:
graduate training, 377
higher education, 173, 174, 187, 188
rationale of, 398
technicums, 101, 105, 121
Admission requirements:
American technical institutes, 123
boarding schools, 36, 37
correspondence schools of higher education, 13
FZO schools, 11
graduate training, 374–378
Admission requirements.
higher education, 168–174
Labor Reserve Schools, 10, 11, 14
Massachusetts Institute of Technology, 61
teacher training schools, 46–48
technicums, 101, 120, 121
Admission statistics:
correspondence schools of higher education, 198
graduate school, 363, 364, 365
institutions of higher education, 16, 18, 25, 193
technicums, 106, 109
University of Moscow (1955), 173
Advanced degrees:
central control in conferring, 150
distribution of faculty members by, 284
examples of designations, 388 n.
Learned Council and, 164
Soviet vs. American, 390–394
titles vs., 282 f.
see also Candidate of Sciences; Doctor of Sciences
Age distribution:
faculty members, 290–291
Aircraft industry:
training for, 140
Akhiyezer, A. I., and Berestetskii, V. B.:
Quantum Electrodynamics cited, 310
Aleksandrov, P. S., and Kolmogorov, A. N.:
cited as authors of school algebra textbook, 74
Algebra:
analysis of ten-year school final examination, 433–438
list of school textbooks, 430
ten-year school examination questions in, 85–90
see also Curricula
Allocation of national resources:
Soviet power in, 401, 413
Soviet vs. free world, 416
American education:
tasks of, 408 f., 410 f.
American Society for Engineering Education:
academic standards and, 213, 278

American Society for Engineering Education:
survey of training technicians, 103 n., 450–452
Ammunition Ministry:
priority in procurements for, 372 n.
Applicant-admissions ratio:
higher education, 16, 18, 25, 172–173
in large cities, 189
Kiev Coal Mining Technicum, 120
University of Kharkov, 172
University of Moscow, 172 f.
Applications for admission to:
graduate schools, 377 f.
undergraduate schools, 169
Applications for faculty appointments:
competitive review of, 464–465
procedure in making, 283–285
Applied Gas Dynamics:
cited, 310
Appointment of:
administrative officers, 152
deans, 154
department heads, 150
faculty members, 149, 283–290, 464–465
rectors and directors, 150
see also Sovmestitel'stvo
Aptitude tests:
absence of, 21
admissions criteria in U.S., 186
see also Entrance examinations; Examinations
Arithmetic:
list of school textbooks, 429 f.
Armament Industrial Academy:
identified, 141
Artobolevskii, I. I.:
Theory of Mechanisms and Machines cited, 310
Aspirantura (graduate training):
enrollment, 366
enrollment by branches of science, 380
entrance examinations, 377 f.
institutions accredited for, 363–364, 366
military schools, 141, 366
part-time, 363, 382 f.
requirements for admission, 374–376
Aspirantura (graduate training):
research and, 366, 368, 373
statistics, 365
supervision of, 366–367, 383 f.
types of, 363–364
uchebnyi plan for, 378–379
Aspiranty (graduate students):
enrollment by branches of science, 380
faculty supervision of, 366 f., 383 f.
part-time employment of, 382 n.
per cent of total enrollment, 296
see also Admission statistics; Enrollment; Graduations
Assignment of graduates:
from technicums, 113–114
to graduate training, 378
to teach school, 50 f., 362 f.
to work, 148, 149, 361–363
Assistent:
assistant professor compared with, 289 f.
definition of title, 460
see also Academic titles
Astrophysics:
subjects for specialization in, 268
"At the Ministry of Higher Education":
translated text, 455–456
Attendance:
economic influence in higher education, 175, 178
Attestat zrelosti (Certificate of Maturity):
admission to higher education and, 82, 84
examinations for, 78, 82–98
Attrition:
correspondence students' rate of, 197–201
resident students' rate of, 191–197
Author's royalty:
textbook, 314, 316
Avtoreferat (author's summary):
of dissertations, 385

Bachelor's degrees:
number earned in U.S., 360 n.
vs. Soviet graduate, 227, 357
Baltimore Polytechnic Institute (U.S.):
type of curriculum in, 61

Bauman School:
see Moscow (Bauman) Higher Technical School
Belyaev, N. M.:
Strength of Materials cited, 313
Benton, William:
cited on his visit to a technicum, 119
Beria, Lavrenti:
cited as an example of "rewriting history," 316, 316 n.
Bilety (tickets):
arrangement of, 83
definition of, 81
ten-year school algebra, 85–90
ten-year school physics, 90–96
use of, 85
Bilevich, A. V.:
equipment designed under supervision of, 320
Boarding schools:
development of, 2, 32–38
Boiler Installations:
cited, 312 f.
Bril'yantov, N. A.:
equipment designed under supervision of, 319
Brooklyn Technical High School (U.S.):
type of curriculum in, 61
BSE (Great Soviet Encyclopedia):
"rewriting of history" in, 316 n.
see also the Index of Sources
Budgetary provisions for research:
at educational institutions, 370–372
Byelorussian (White Russia) Polytechnic Institute:
accelerated courses in, 192
Byelorussian SSR
college enrollment in, 289

California Institute of Technology:
per cent of graduate students, 296
student-teacher ratio, 297
Candidate of Sciences (*kandidat nauk*):
procedure in awarding degree of, 164, 385–387
vs. Ph.D. and Master, 390–394
see also Academic degrees; *Aspirantura*
"Candidate's minimum":
definition of, 379 f.
required test in, 387
Catalogue exchange:
attempt at arranging, 226 n.
Central Asia Polytechnic Institute:
facilities at, 322
Central Committee of the Communist Party:
appraisal of education in 1931 by, 27
assignment of graduates by, 362
conference on boarding schools, 34
control of appointments by, 152
control of the Academy of Sciences by, 369
decree (1954) on the improvement of training, 50
directive on textbooks for higher education, 316
directive on textbooks for secondary schools, 71
doctoral training and, 389
educational reform (1954), 455–456
grading system and, 76
pedology and, 21
polytechnic instruction and, 27
research and, 370
school reform (1931) and, 68
universal education and, 120
Central Scientific Company (U.S.):
vs. Soviet counterpart, 41
Certificate of Maturity (*attestat zrelosti*):
admission to higher education and, 82, 84
examinations for, 78, 82–98
Challenge of Soviet Education:
cited, 414 n.
Charter for the higher schools:
duties of the Learned Council, 164
proposed revision of, 282 n, 286 n.
provision for granting, 149
Chemistry:
college entrance examination in, 182–185
list of school textbooks, 429
Civil war:
effect on education, 27, 130
Class hours:
engineering curricula, 211 f.
engineering laboratory, 337
examples by subjects, 222
foreign language, 228, 229
higher education, 223–225

Class hours:
MVTU compared with other engineering schools, 236 n.
Pedagogical Institute, 50, 275
Pedagogical Institute vs. university, 276
physics curriculum laboratory, 336
reduction of compulsory, 211 f., 225
social science, 231
technicums, 123–126
ten-year schools, 43, 54
university physics curriculum, 260
Wentworth Institute (U.S.), 124 n.
Coal Mining Industry:
technicums of, 119
Coeducation:
ten-year school, 1
Unified Labor School, 20
College Admission with Advanced Standing (U.S.):
publication data, 434 n., 439
College Board examinations (U.S.):
mathematics, 434 ff.
physics, 440
vs. Soviet tests, 186
College Board Tests (U.S.):
publication data, 434 n., 439 n.
College Entrance Examination Board (U.S.):
Commission on Mathematics, 89, 436
Evaluation and Advisory Staff, 87
testing methods vs. Soviet practice, 186
Columbia University students:
visit to the Soviet Union, 119
Commission on Mathematics of the College Board (U.S.):
high school mathematics and, 436
Committee on the Higher School (VKVSh):
history and functions of, 146–150
proposal to revive, 145 n.
technicums and, 116
Communist Academy:
advanced degrees and, 282
Communist Agricultural Schools of Higher Education (VKSKhS):
historical reference to, 131
Communist Party:
academic tradition and, 270
control of higher education, 143 f., 145
Communist Party:
polytechnic education and, 27
Rabfak and, 130
report on distribution of technicians, 114
see also Central Committee of the Communist Party; Congress of the Communist Party
Communist Schools of Higher Education (Kom VUZ):
historical reference to, 131
Communist state:
educational aims of, 398–399, 411
Communist Youth League (Komsomol):
representation on the Learned Councils, 163
role of, 145
Competitive entrance examinations:
regulations on, 170
see also Entrance examinations
Competitive faculty appointments:
regulations on, 283–286, 464–465
"Complete secondary school":
see Ten-year school
Congress of the Communist Party:
Sixteenth (1930), 2 n.
Seventeenth (1934), 3
Eighteenth (1939), 3
Nineteenth (1952), 3, 22, 28, 49, 105, 370
Twentieth (1956), 4, 32, 40, 69, 73, 168, 354, 367 f., 370
graduate training directive following the Twentieth, 367 f.
history syllabus following the Twentieth, 69, 73
on shortcomings in engineering training, 354
polytechnic instruction and, 28, 32, 49
rate of training technicians following the Nineteenth, 105
research in institutions of higher education and, 370
school construction and, 40
Sixth Five Year Plan for graduations, 168
universal education and, 2, 3, 4, 22
see also Central Committee of the Communist Party; Communist Party

Constitution of the USSR:
educational provisions of, 3, 3 n.
Consultation with students:
on term projects, 340
staff-time allotment for, 301
Cornell University:
student-teacher ratio, 295
Correspondence schools and departments:
academic mortality in undergraduate, 197–201
for engineers, 141–144, 159, 162
higher education, 15, 154, 156, 157, 159, 162
plans for expansion of, 456
technicums, 106
Council of Ministers (formerly, of Commissars):
admission rules and, 169
assignment of graduates by, 362
boarding school regulations and, 35
condemnation of model schools by, 22
directive on textbooks for higher education, 316
educational reform (1954), 50, 455–456
research and, 369
scholarships set by, 175 f.
technicians' training rate and, 110
Counts, George S.:
Challenge of Soviet Education cited, 414 n.
"Cramming" ("Zubryoshka"):
entrance examinations, 197
Soviet educators quoted on, 313, 342 f.
Curricula:
approval of undergraduate, 149
common elements of undergraduate, 227–232
elementary school teacher training, 46–47
formulation of undergraduate, 210–211, 456
mechanical engineering, 235–256
Pedagogical Institutes, 48
physics (university), 256–271
regional differences and undergraduate, 212
seven-year school, 55–56
technicum, 121–126, 456
Curricula:
ten-year school, 52–64
university vs. Pedagogical Institute mathematics, 272–275
see also Uchebnyi plan

Dal'stroi, NKVD:
privileges for children of employees, 171
Deans:
appointment of, 154
Decentralization of educational control:
plans for (1920), 146 n.
Decentralization of industrial control:
educational system and, 145 n.
engineering education and, 317
technicums and, 117
Deferment from military draft:
State Labor Reserve trainees, 10
undergraduates, 191
Degrees:
control in conferring academic, 150
examples of designations, 388 n.
faculty members holding, 284
Learned Council and, 164
Soviet vs. American, 390–394
titles vs., 282 f.
see also Candidate of Sciences; Doctor of Sciences
Dekan
see Dean
Departments in schools of higher education:
fakul'tet defined, 154
see also Academic chairs; Faculties
Design of an Atomic 5,500 HP Freight Locomotive:
outline of a diploma project, 350
Desyatiletka
see Ten-year school
Detali mashin (*Machine Details*):
cited, 314
Dialectic and historical materialism:
courses in, 231
Differentiation within:
engineering curricula, 277 f.
technicums, 102
ten-year schools, 26, 33, 53, 54, 120
"Diploma practice":
in engineering curricula, 343

Diploma project:
curricular provision for, 227
"defense" of, 350
difficulty in obtaining data for use in, 352
engineering undergraduate, 349–354
per cent of time allocated for, 226
staff time for supervision of, 301
"Directive on Industrial Practice:"
references to, 343 f.
Discrimination:
faculty appointments and political, 285
in admission requirements, 170–171
in admission to graduate training, 377
political grounds for, 174
social origin grounds for, 169, 174
Dissertation:
academic degrees and, 282
defense of, 385–387
optional writing of, 387
per cent completed on time, 384
preparation for defense of, 385–387
preparation of, 381 f.
responsibility for defense of, 383 f.
review by the Higher Attestation Commission, 386 f.
see also Graduate training
Dnepropetrovsk Engineering Construction Institute:
expansion of extension facilities, 142
Dnepropetrovsk Metallurgical Institute:
expansion of extension facilities, 142
Docent:
associate professor (U.S.) vs., 290
definition of title, 460
Doctor of Sciences (*doktor nauk*):
Charter (1938) cited on the award of degrees, 164
per cent population holding degree of, 289
requirements for the degree of, 387–390
vs. Ph.D., 289
vs. Ph.D. and Master, 390–394
see also Academic degrees; *Doktorantura*
Doctoral dissertation:
requirements of, 388
Doctoral program (*doktorantura*):
abolished, 387–390
provisions for, 363
Doktor nauk
see Doctor of Sciences
Doktorantura (doctoral program):
abolished, 387–390
provisions for, 363
Dolzhnost' (position):
competition for academic, 464–465
titles and, 282
Don Industrial Institute:
expansion of extension facilities, 142
Dormitories:
examples of conditions in, 322–323
Drafting:
in higher education curricula, 338
manual for grades VIII–X, 432
Dudorov, N. P.:
conference on boarding schools, 34
Dvigateli vnutrennevo sgoraniya (*Internal Combustion Engines*):
cited, 311 n.
Dyetskii dom
see Home for Children

Earnings:
Academicians, 306 f.
textbook-writing fees as part of, 314
U.S. examples of average yearly, 308 n.
see also Salaries
ECPD—Engineering Council for Professional Development (U.S.):
technical institutes accredited by, 450–452
Education:
location factor in the quality of, 355
vs. training, 406–408
Education subjects:
in physics curriculum, 269
see also Curricula
Educational films:
use in higher education, 330–331
Educational statistics:
absence of many data, 400
difficulty of comparing with U.S., 408
see also Admission statistics; Enrollment; Enrollment-to-population ratio; Graduations; Pupil-teacher ra-

Educational statistics:
tio; Student-teacher ratio; "Success ratio"
Educational Testing Service (U.S.):
analysis of final examination in algebra, 433–438
analysis of final examination in physics, 439–446
conclusions on oral examination in mathematics, 88
evaluation of final examination, 82 ff.
observations on oral examination in physics, 95
Electives:
in Soviet curricula, 219–221
Electrophysics:
undergraduate option in, 269
Elementary school:
part of the ten-year school system, 2
Elementary Theory of Automatic Regulation:
cited, 310
evaluation of, 466–467
Engineering drawing:
in higher education curricula, 338
manual for grades VIII–X, 432
Engineering education:
efforts toward broadening, 405 f., 456
fields of specialization, 155, 163, 227 n.
physics in, 256–260
Soviet references to MIT, 457–459
Engineering institutes (VTUZY):
categories and number of (1950 and 1955), 140
Engineering Physics Institute:
graduate specialties at, 378
Engineering students:
USSR and U.S. ratio, 401
Engineering technician:
definition of, 104
output in U.S., 112
ratio to engineers in U.S., 112 f.
shortage of, 109–110
Engineers:
shortage of, 109–110
English:
in higher education curricula, 230
English translations:
documentary material on education, 471–476
English translations:
textbooks, 311, 326
Enrollment:
aspirantura, 366, 380
below university level, 15, 16
boarding school, 32
correspondence schools of higher education, 198
engineering school, 142–144
facilities vs. expansion in, 323, 335
freshmen in institutions of higher education, 5, 14, 15, 16, 18
FZO school, 11
geographic distribution of higher education, 174
graduate, 296, 365, 380
Labor Reserve Schools, 10–14, 17
Pedagogical Institutes, 48, 271 n.
population vs. college, 289 n., 400
postwar expansion of engineering school, 143–144
primary school, 2
schools for rural youth, 6, 7, 17
schools for working youth, 5, 7, 17
Teachers Institutes, 47, 272 n.
technical trades schools, 13, 14
technicum, 9, 17, 18, 104 f., 107
ten-year school, 15, 16, 17, 22, 23, 24, 26, 43
tuition and effect on, 175
undergraduate, 131, 132, 134, 144, 193
university, by faculties in 1955–1956, 202–204
university, by years of the course, 205
upper grades of ten-year school, 26
U.S. high school, 97 n.
U.S. technical institute, 112–113
USSR–U.S. ratio of engineering school, 401
Enrollment-to-population ratio:
grades I–IV, urban and rural, 23 n.
grades VIII–X, 26
higher education (1955–1956), 132
higher education in Russia, 131
primary schools in Russia, 2
seven-year school, 3
U.S. colleges in selected years, 132 n.
U.S. high schools, 26
see also Universal education

Entrance age:
freshmen, 169
State Labor Reserve training, 10, 11
Suvorov and Nakhimov schools, 8
technicums, 9
ten-year schools, 1, 3
Entrance examinations:
chemistry, 182–185
foreign language, 178, 185 f.
graduate school, 377 f.
institutions of higher education, 178–186
mathematics, 180–182, 453–454
physics, 182–184
rules for competitive, 170–171
Russian language and literature, 179 f.
Soviet comment on effectiveness of, 196 f.
technicum, 121
Erivan' Polytechnic Institute:
announcement of vacancies on the faculty of, 462
Estonian SSR:
ten- and eleven-year schools, 1 n.
Evaluation of achievement:
leniency in, 341
see also Examinations; Grading system; "Percentomania"
Evening schools:
for engineers, 141–144, 159
higher education, 15, 154, 159, 162
machine construction, 162
plans for expansion of, 456
polytechnic and industrial, 159
technicums, 106
university, 156, 157
see also Schools for Rural Youth
Examinations:
foreign language, 229
number in higher education, 221–222
preparation for entrance, 178 f.
preparation for promotional, 342
procedure in holding, 81, 84, 341
staff time allocated for promotional, 301
ten-year school, 20, 21, 75, 78–98
undergraduate entrance, 178–186
university undergraduate final, 227
Examinations:
see also Admission requirements; Entrance examinations; Final examinations; Promotional examinations; Tickets for oral examinations; *Zachety*
Extension facilities:
plans for expansion of, 456
see also Correspondence schools and departments; Evening schools

Facilities:
as limiting factor, 334–335
boarding schools, 33
demographic pattern and, 22
geographic distribution of educational, 174
graduate, 363–368
rural schools, 42
school buildings, 39
students' contribution to, 4, 36
technicums, 118
ten-year schools, 38–41
undergraduate, 318–324
universal education and, 403
university shop, 271
see also Laboratories and equipment; School construction; Workshops
Faculties (*fakul'tety*):
definition of, 154
higher education, 455
industrial institutes, 159–161
machine construction institutes, 162
Pedagogical Institutes, 48
polytechnic institutes, 159–161
university, 156, 157
university enrollment by, 202–204
Faculty appointments:
competitive basis for, 464–465
procedure in making, 283–286
Faculty members
see Teaching staff
Failures:
undergraduate students, 196
Fakul'tativnye subjects
see Electives
Fakul'tety
see Faculties
Fields of specialization:
chemistry, 270 n.

Fields of specialization:
curricula and, 214–219, 456
engineering, 155, 163, 227 n.
graduate study, 378–380
graduates (1950 and 1955) by, 203
in industrial institutes, 159
in polytechnic institutes, 159
in universities, 156, 216–218, 456
machine construction, 162
metal cutting machine tools as one of, 235 ff.
number of professional, 155–163, 214–215
procedure in designating, 456
quality of training and, 356
Soviet vs. MIT, 220
technicum, 108, 119 f., 456
technology of machine construction as one of, 235 ff.
transfers among, 190 f.
undergraduate physics, 154 f., 267–269
Final examinations:
Certificate of Maturity, 78, 80
seven-year school, 80
ten-year school, 78–98
ten-year school algebra, analysis of, 433–438
ten-year school physics, analysis of, 439–446
undergraduate, 214
Five Year Plans:
First (1928–1932), 109
Second (1933–1937), 28
Fourth (1946–1950), 109
Sixth (1956–1960), 40, 168, 199, 200
educational objectives of, 399
inauguration of, 131, 369
USSR Academy of Sciences and, 373
vertical organization of industries, 117
"For Greater Intitiative and Independence":
cited on the role of the Ministry of Higher Education, 213
Foreign languages:
entrance examination in, 178, 185 f.
graduate requirements in, 381
higher education and, 227, 228–231
importance of, 230
ten-year school, 185 f.
university courses in, 217–218
"Formalism":
in school teaching, 79
Four-Continent Bookstore (New York):
cited on price of Soviet textbooks, 177 n.
Frank-Hertz experiment:
Moscow University laboratory facilities for, 321
French:
in higher education curricula, 230
FZO ("factory and plant instruction"):
cited, 11

Geographic distribution:
as a qualitative factor, 354
of higher schools, 174
Geometry:
list of school textbooks, 431
Georgia Polytechnic Institute:
announcement of vacancies on the faculty of, 463
Georgian SSR:
eleven-year secondary schools, 1 n.
German:
its importance in science, 230
Glagolev, N. A.:
geometry textbooks cited, 70, 75
Glavprofobr (Main Administration of Professional Education):
cited, 146 n.
Glavsnabpros (Main Administration for Procurement of Educational Aids):
cited, 40
Glavuchtekhprom (Main Administration of Educational-Technical Industries):
cited, 40
GOI (State Optical Institute):
cited, 321 n.
"Gosbyudzhetnyi" ("state-budgetary") research:
defined, 370
GOSPLAN (State Planning Commission):
training of specialists and, 455
Grades:
scholarships affected by, 176 f.
Grading system:
in entrance examinations, 179
in examinations, 84, 186
regulations on, 80
ten-year school, 21, 75–78

Graduate degrees
see Academic degrees
Graduate students (*aspiranty*):
enrollment by branches of science, 380
faculty supervision of, 366 f.
part-time employment of, 382 n.
per cent of total enrollment, 296
see also Admission statistics; Enrollment; Graduations
Graduate training (*aspirantura*):
enrollment, 366
enrollment by branches of science, 380
entrance examinations for, 377 f.
institutions accredited for, 363–364, 366
military school, 141, 366
part-time, 363, 382 f.
requirements for admission, 374–376
research and, 366, 368, 373
statistics, 365
supervision of, 366–367, 383 f.
types of, 363–364
uchebnyi plan for, 378–379
Graduates:
alternatives to higher education for ten-year school, 26, 101
assignment of university graduates to school teaching, 362 f.
destination of technicum, 113–114
distribution by fields among (1955), 201–205
"surplus" of ten-year school, 25, 121, 171, 196
see also Graduations
Graduation age:
elementary school teachers, 46
ten-year school, 1
undergraduate, 213 n.
Graduations:
by fields of specialization (1950 and 1955), 203
by types of schools and kind of instruction (1955), 202
correspondence engineering institute, 197
correspondence schools of higher education, 198
engineering students (1946–1960), 200
engineering technicums, 126 f.
engineers (1956), 192
graduate school, 360, 365
Graduations:
Labor Reserve schools of mechanization in agriculture, 14
plan for higher education (1956–1960), 199, 200
teacher training institutions, 272 n.
technical trades schools, 13, 14
technicums, 105, 106, 107, 109, 110, 200
ten-year school, 12, 25
undergraduate by types of instruction, 200
undergraduate rate of, 192–201
university (1956), 271 n.
U.S. technical institutes, 112
Graphics:
in the curricula of higher education, 338
term project use of, 340
Great Soviet Encyclopedia (*BSE*):
"rewriting of history" in, 316 n.
see also the Index of Sources
GTO ("Ready for Work and for Defense"):
definition of, 228 n.
GUUZ (Main Administration of Schools):
cited, 145
Gymnasium:
reorganization of, 8

Habilitation:
compared with *doktor nauk*, 289
Harvard University:
catalogue exchange experiment, 226 n.
per cent of graduate students, 296
rank in output of physicists, 260 n.
student-teacher ratio, 294
High school (U.S.):
compared with ten-year school, 61–64
Higher Attestation Commission (VAK):
academic appointments and, 164
academic titles and, 150, 283
decree granting power of, 386 f.
powers of, 150
Higher Military-Engineering School of Construction:
cited, 141
History:
J. V. Stalin and the teaching of, 73
ten-year school syllabi in, 69

History of the Communist Party:
courses in the, 231
Home for Children:
NKVD-MVD and, 34
vs. boarding school, 35, 37
Honors and decorations:
school teacher, 51
ten-year school medals, 78, 82
Humanities:
Soviet and MIT, 269
Hydraulics, Pumps, and Air Blowing Machines:
cited, 313

Inbreeding:
teaching staff, 286–287
"Incomplete secondary school"
see Seven-year school
Indoctrination:
effectiveness of, 411–412
vs. education, 406 f.
Industrial institutes:
list of, 159
Industrial ministries:
and technicums, 116 f.
Industrial practice:
curricular provision for, 226
"Directive on Industrial Practice," 343 f.
in higher education, 343–349, 456
time allocated for, 227
vs. shop training, 338
Industry:
engineering training and, 255 f.
Institute of Physical Problems:
cited on fields of graduate training, 379
Institutes:
distinction between universities and, 135
number of, 135
types of, 136–139
Institutions of higher education:
authorized to conduct graduate training, 363–364, 366, 367
basic types of, 135–136
increase in the number of, 133–135
list of, 137–138
number of, 131 f.
Instruction by correspondence:
higher education, 15, 141–144, 154, 156, 157, 159, 162
plans for expansion of, 456
technicum, 106
Internat (boarding school):
cited, 35
Introduction to the Theory of Metals:
cited, 310

Job placement:
of graduates, 148, 149, 361–363
technicum graduates, 113–114
ten-year school graduates and, 401–402
to teach school, 50 f., 362 f.

Kafedra (Academic chair):
definition of, 153
specialization by, 221
Kandidat nauk (Candiate of Sciences):
procedure in awarding degree of, 164, 385–387
vs. Ph.D. and Master, 390–394
see also Academic degrees; *Aspirantura*
Kao Kang:
cited as an example of "rewriting" history, 316 n.
Kaptsov, N. A.:
equipment designed under supervision of, 319
Kaunas Polytechnic Institute:
scholarships in, 176 f.
Kazakh State University:
announcement of vacancies on the faculty of, 462
Kazan State University:
graduate school statistics of, 384
Kharkov Polytechnic Institute:
cited on the problem of admissions quota, 187 f.
cited on the quality of candidate dissertations, 382
Kharkov Tractor Plant:
cited on facilities for student practice, 344
"Khozdogovornyi" ("economic management—contractual") research:
administration of, 371 f.
defined, 370

Kiev Coal Mining Technicum:
scholarships at, 111, 111 n.
visits to, 119
Kiev Polytechnic Institute:
cited on *sovmestitel'stvo,* 299
cited on the conduct of industrial practice, 344
expansion of extension facilities, 142
Kiev University:
cited on *sovmestitel'stvo,* 299
Kindergartens:
relation to boarding schools, 37
Kiev Pedagogical Institute:
cited on the "polytechnic approach," 49
Kirov Plant:
cited on student practice facilities, 344
Kiselev, A. P.:
reference to a textbook by, 70, 74 f.
Kolmogorov, A. N.:
academic position of, 449 n.
school algebra textbook by, 74
see also the Index of Sources
Kom VUZ (Communist Schools of Higher Education):
historical reference to, 131
Komsomol (Communist Youth League):
representation on the Learned Councils, 163
role of, 145
Komsomol'sk Polytechnic Institute:
cited, 139 n.
Konspekty (condensed summaries, lecture notes):
in higher education, 315
in technicums, 118
Krivoi Rog Mining Institute:
cited on extension facilities, 142
Kurs obshchei fiziki (*General Physics*):
cited, 310

Labor Reserve of the USSR:
decree on, 10
schools, 10–14
Labor training:
for mechanization in agriculture, 14
FZO schools, 11
State Labor Reserve schools, 10–12
Technical Trade Schools, 12–14
Laborant (senior laboratory technician):
salary of, 304
Laboratories and equipment:
Moscow University, 318–321
Moscow University physics, 320 f., 336
ten-year schools, 40, 41
University of Kharkov, 321
"Laboratory-brigade" method of instruction:
historical reference to, 328 f.
Laboratory work:
engineering curriculum provision for, 337
MVTU curriculum time allocated to, 237
organization of, 334–337
per cent of time allocated for, 226
physics curriculum provision for, 336
Latin:
in ten-year schools, 53
Latvian SSR:
ten- and eleven-year schools, 1 n.
Latvian University:
cited on cooperation of industry, 352
Learned (Academic) Council:
composition and functions of, 163–165
faculty appointments and, 283–284
graduate enrollment and, 377 n.
Leave of absence:
for writing dissertations, 389
for writing textbooks, 302 f.
Lecture notes (*konspekty*):
in higher education, 315
in technicums, 118
Lectures:
in the social sciences, 333 f.
MVTU curriculum, time allocated to, 237
per cent of time allocated for, 226
role and conduct of, 328–334
syllabus vs. content of, 329 f.
Leningrad Forest Engineering Academy:
cited on the conduct of industrial practice, 346
Leningrad Forest Technology Institute:
cited on the organization of industrial practice, 348
Leningrad Institute of Precision Mechanics and Optics:
list of faculties at, 321 n.

Leningrad Institute of Railroad Engineering:
cited on evaluation of dissertations, 386
Leningrad Mechanical Institute:
cited on the conduct of industrial practice, 347
Leningrad Metal Works:
cited on student practice sessions, 344
Leningrad Military Air Academy:
cited, 141
Leningrad Pedagogical Institute:
cited on the "polytechnic approach," 49
Leningrad Polytechnic Institute:
cited, 218, 331, 341
Leningrad Public Library:
cited on the demand for foreign journals, 230
Leningrad Radio Technical Institute:
cited on the conduct of industrial practice, 344
Liberal arts education:
U.S. vs. Soviet, 135
Lithuanian SSR:
eleven-year secondary schools, 1 n.
Living expenses:
students in higher education, 177
Lodygin, A. N.:
cited in physics syllabus, 184
Lomonosov, M. V.:
cited in physics syllabus, 184
Low-temperature physics:
subjects for specialization in, 267
L'vov Polytechnic Institute:
cited on the conduct of industrial practice, 344
cited on the problem of admissions quota, 187

Machine construction institutes:
list of, 162
Magnetism:
subjects for specialization in, 268
MAI (Moscow Aviation Institute):
cited, 133
Majors
see Fields of specialization
Make-up courses:
absence of, 232
Manual training:
in schools of general education, 30
see also Polytechnic instruction
Marx and Engels:
on teaching, 27
Massachusetts Institute of Technology:
admission requirements, 61, 63
catalogue exchange experiment, 226 n.
class hours, 224
comment on physics majors at, 85 n.
comparison of Course VIII (Physics) with Soviet counterpart, 260–271
Course II, compared with a similar Soviet curriculum, 235–256
curriculum in electrical engineering, 277
electives in ME curriculum, 219
engineering fields of specialization, 215 n.
enrollment vs. facilities, 335
freshman class hours, 223
mathematics requirement for admission to, 61
per cent of graduate students, 296
school calendar, 214 n.
Soviet references to, 458–459
"success-ratio," 195 n.
training of scientists, 260 n.
Master's degree (U.S.):
number earned in selected years, 360 n.
vs. Candidate and Doctor, 390–395
vs. Soviet graduate, 357
Mathematical physics:
subjects for specialization in, 267
Mathematics:
College Board Examinations (U.S.), 88–90
engineering training in, 254
entrance examination in, 180–182
faculties offering, 158
grades V through X syllabus in, 423–426
high school (U.S.) requirements in, 61–64, 98
minimum requirements for admission to MIT, 61
"Olympic Games" in, 447
polytechnic approach to, 29, 30
prize contest problems in, 447–449

Mathematics:
problems used for entrance examinations in, 181 f., 453–454
requirements for admission to American technical institutes, 123
school teacher training in, 48, 49
school textbooks in, 74
seven-year school, 121
seven-year school vs. U.S. high school, 123
syllabus for engineers in, 254 n.
technicum entrance examination in, 122
ten-year school, 54, 70, 71, 85–90, 98
see also Curricula
Mathematics teachers:
curriculum in training of, 271–276
Matriculation
see Admission policy; Admission quotas; Admission requirements; Admission statistics
Medal holders:
admission privileges for, 170, 172
Medals:
ten-year school, 78, 82
MEI (Moscow Power Institute):
cited, 134
MGU
see Moscow State University
Military academies:
origin of some, 133, 134
Military Academy of Chemical Defense:
cited, 141
Military Air Engineering Academy Named after N. E. Zhukovskii:
sources of information on, 139 f.
Military-Artillery Academy Named after F. E. Dzherzhinskii:
cited, 141
Military draft:
higher education and, 191
secondary school teachers and, 41
State Labor Reserve and, 10
Military Electrotechnical Academy of Communications Named after S. M. Budennyi:
cited, 141
Military Engineering Red Banner Academy Named after Kuibyshev:
cited, 141
Military Medical Academy Named after S. M. Kirov:
cited, 141
Military schools:
academic control of, 147 n.
in tsarist Russia, 8, 34
of higher education, 141
of higher technical education, 139–141
of secondary education, 2
Suvorov and Nakhimov, 8, 34
Military service:
admission policy on those completing, 171
State Labor Reserve and, 10
undergraduates and, 191
Minimum wage:
change in, 307
Ministry of Agriculture:
labor training schools, 14
Ministry of Building Materials:
examples of training programs carried by, 117
Ministry of Heavy Machine Building:
cited on industrial research, 368
Ministry of Higher Education, USSR:
academic appointments and, 152
academic titles and, 283
aspirantura training and, 378
cited on coordination of research, 368, 370
competition for appointments and, 285
control of technicums by, 9, 115–116
directives of 1954, 167
editorial on industrial practice, 345
faculty appointments and, 284
Glavsnab of, 456
history of, 145–152
industrial ministries and, 126
on the improvement of textbook supply, 317
syllabi formulation and, 213
teacher training and, 46, 48, 50
teaching of languages and, 229
uchebnyi plan and, 210–213
Ministry of Metallurgical Industry:
examples of training programs carried by, 116

Ministry of Power Plants and Electrical Industry:
examples of training programs carried by, 117
Ministry of Public Education, RSFSR:
boarding school regulations, 35
Glavsnabpros of, 40
Glavuchtekhprom of, 40
polytechnic instruction and, 31, 52 f.
promotional examinations and, 80
publication of school examination questions by, 83
school syllabi and, 69, 73
supervisory functions of, 1, 4
Ministry of State Farms:
labor training schools, 14
Minsk Technicum of Light Industry:
classroom facilities at, 118
MMMU (Moscow Mechanical Machine Construction School):
cited, 133
Mnogopredmetnost' ("multi-subjectness"):
cited, 302
effect on textbooks, 312
Mobility:
in higher education, 190–192
Molecular physics:
subjects for specialization in, 267 f.
Molotov Machine Construction Institute:
cited, 139 n.
Molotov Military Academy of Administrative Services and Supply:
cited, 141
Moscow Automobile Plant:
cited on the facilities for student practice, 344
Moscow Aviation Institute (MAI):
cited on fields of graduate training, 379
Moscow (Bauman) Higher Technical School (MVTU):
cited among leading institutions, 218
cited on inbreeding, 287
class hours, 224, 236
connection to the Ministry of Armaments, 366 n.
example of a diploma project at, 350
graduate enrollment, 296
physics laboratory, 336
Moscow (Bauman) Higher Technical School (MVTU):
practice training sessions at, 348
reorganizations of, 133
sample curriculum, 225 ff., 235–256
sovmestitel'stvo at, 298
student-teacher ratio, 295
term of instruction at, 191 f.
use of educational films at, 331
Moscow City Potemkin Pedagogical Institute:
cited on excessive class hours, 224
Moscow Construction Engineering Institute:
cited on excessive class hours, 222
Moscow Engineering-Physics Institute:
cited, 136
Moscow Power Institute:
cited among leading institutions, 218
Moscow (State) University (MGU):
academicians on the teaching staff of, 291
graduate enrollment, 296
handbook of, 188 f.
per cent of graduate students, 297
physics laboratories at, 336
postwar plant expansion of, 318–321
scholarships (1954) in, 176
student-teacher ratio, 294
sovmestitel'stvo at, 298
use of educational films in, 331
Motion pictures:
classroom use of, 330–332
Motivation:
against graduate training, 376 f.
aversion to manual labor, 31
for academic advancement, 173, 403 f.
in school choice, 189
national pride as element of, 412 f.
Multiple-shift operation:
in higher education, 322
in schools, 39
MVTU
see Moscow (Bauman) Higher Technical School

Nakhimov schools:
history of, 8

National Council of Teachers of Mathematics (U.S.):
Curriculum Committee, 437
Nauchnaya rabota (a scholarly work):
in lieu of dissertation, 387
Naval Academy of Shipbuilding and Armaments:
cited, 141
Nekhendzi, Yu. A.:
cited as author of a textbook, 314
New Economic Policy:
higher education under, 130, 132
research coordination during, 369
"New Foreign Books":
cited on the distribution by languages, 230
Nikitin, N. N., and Fetisov, A. I.:
reference to a textbook by, 75 n.
NKVD-MVD:
institutions for children, 34
Novocherkassk Industrial Institute:
cited on *sovmestitel'stvo*, 299
Novocherkassk Polytechnic Institute:
student-teacher ratio, 295
Novoselov, S. I.:
reference to a textbook by, 74 n.
NTO (Scientific-Technical Section):
cited, 369
Nurseries:
relation to boarding schools, 37

Oberrealschule:
compared with ten-year school, 64
Russian counterpart of, 8
"On Academic Degrees and Titles":
excerpts from, 460
"On Improvement of Training, Assignment, and Use of Specialists with Higher and Secondary Specialized Education":
effect on teacher training, 50
"On Measures to Improve the Training and the Certification of Scientific and Teaching Cadres":
cited, 368
"On the New System of Social Upbringing":
excerpts from, 35
"On the Teaching of Physics in Higher Technical Schools":
excerpts from, 257–259
Optics:
subjects for specialization in, 268
Otlichniki ("A-students"):
technicum, 170
Otraslevye (branch of industry) institutes:
for engineering education, 342
for industrial research, 369

Part-time schools
see Correspondence schools and departments; Evening schools; Schools for Rural Youth; Schools for Working Youth
Part-time teaching:
in higher education, 298, 299
Party affiliations:
faculty members, 292
Party schools:
with graduate facilities, 366
"Party-Thousands":
historical reference to, 130
Pedagogical Institute:
defined, 46, 48
mathematics teacher curriculum, 271–276
term of study in, 276
Pedagogical School:
admission requirements, 46
Pedagogicheskii institut (Pedagogical Institute):
definition of, 46, 48
Pedagogicheskoye uchilishche (Pedagogical School):
definition of, 46
Pedology:
decree of 1936 on, 21
Pensions:
for faculty members, 305
"Percentomania":
government directives against, 76–77, 81
"Perestrakhovka" ("re-insurance"):
definition of, 352 n.
Petrov, P. A.:
equipment designed under supervision of, 319

Petrov, V. V.:
cited in physics syllabus, 184
Ph.D. (U.S.):
number of earned degrees in selected years, 360 n.
vs. Doctor and Candidate, 390–394
Physical education:
in higher schools, 227–228
see also Curricula
Physical electronics:
subjects for specialization in, 268
Physics:
analysis of ten-year school final examination, 439–446
College Board (U.S.) examinations, 96–98
comment on MIT students majoring in, 85 n.
comparison of MIT and Soviet curricula in, 260–271
elementary school teacher preparation in, 46–47
engineering education in, 146, 253 n., 256–260
entrance examination in, 182–184
faculties offering, 158
list of school textbooks, 427–429
polytechnic knowledge in, 29
praktikum in, 259
school teacher training in, 48–50
ten-year school, 53
ten-year school final examination in, 90–98
ten-year school syllabus in, 69
undergraduate specialization in, 154 f., 267–269
university curriculum in, 256–271
see also Curricula
Planning:
rate of graduation and, 196
Political economy:
courses in, 231
Political surveillance:
administration of, 145, 147, 153
"Polytechnic contract":
definition of, 31
Polytechnic institutes:
list of, 159
Polytechnic instruction:
boarding schools and, 32, 36
Polytechnic instruction:
effect on university physics, 270 f.
facilities and, 40
reintroduction of, 26
school textbooks and, 73
teacher training and, 49, 50
teachers and, 43
ten-year school curriculum and, 52 f.
ten-year school mathematics and, 70
Ukrainian SSR, 53 f.
Polytechnic Instruction in Schools of General Education:
excerpts from, 28–30
Polzunov, I. I.:
cited in physics syllabus, 184
Popov, A. S.:
cited in physics syllabus, 184
Population deficit:
effect on education, 22, 23 n.
higher education and, 205
Practical experience:
admission to graduate schools and, 375–376
praktikum:
physics, 259
Predvoditelev, A. S.:
equipment designed under supervision of, 319
Preparator (junior laboratory technician):
salary of, 304
Princeton University:
student-teacher ratio, 295
Priority of Soviet science:
in school syllabi, 69 f., 183 f.
"Professional Unions":
role in school life, 145
Professor:
definition of title, 460
Soviet vs. U.S., 290
see also Teaching staff
Proftekhnicheskoye obrazovaniye (Professional-Technical Education):
cited, 117 n.
Programma
see Syllabus
Progressive education:
experiment in, 20
Promotional examinations:
higher education, 340–343

Promotional examinations:
ten-year school, 78–98
promyshlennye (industrial) classes:
in ten-year schools, 120
Pupil-teacher ratio:
ten-year schools, 41, 43, 44
Western examples of, 43
Pupils-per-school ratio:
technicums, 119
ten-year schools, 39
Purdue University Technical Institute (U.S.):
on prerequisites for admission to technical institutes in U.S., 123
Putevka (travel orders):
defined, 114

Qualifications of:
faculty members, 282 f
technicum graduates, 127
Qualitative factors:
in undergraduate training, 354–357
Quantum Electrodynamics:
cited, 310

Rabfak (Workers' Faculties):
historical reference to, 130
Radiophysics:
undergraduate option in, 269
Ratio
see Applicant-admissions ratio; Enrollment-to-population ratio; Pupil-teacher ratio; Pupils-per-school ratio; Student-teacher ratio; Students-per-school ratio; "Success ratio"; Technicians-engineer ratio
"Ready for Work and for Defense of the USSR":
defined, 228
Regional differences:
higher school curricula and, 212
ten-year school and, 1, 2
"Regulations on the Personnel Distribution of Young Specialists . . .":
references to, 361 f.
Research:
at institutions of higher education, 323 f., 368–374
coordination of academic, 150
"gosbyudzhetnyi," 370
Research:
graduate training and, 366, 368, 373
in conjunction with teaching, 297 f., 303
"khozdogovornyi," 370
organization for, 368
term projects and, 340
vs. teaching, 374
Research institutes:
authorized to conduct graduate training, 363, 364, 366
Resident vs. extension education:
relative quality of, 355 f.
Riga Military Air Engineering Institute:
cited, 141
Rostov University:
cited on inbreeding, 286
Royalties for textbooks:
new regulations on, 316
rate of, 314
Rozhdestvenskii, D.C.:
contribution to optics in the Soviet Union, 321 n.
RSFSR Akademiya Pedagogicheskikh Nauk
see Academy of Pedagogical Sciences, RSFSR
Russia (pre-Revolution):
academic degrees, 282
economic status of students in, 178
enrollment in primary schools, 2
growth of education, 130
higher education in, 131
military technical education in, 141
schools, 33
pupil-teacher ratio, 42
school grading system in, 77
schools of secondary education, 8
scientific tradition in, 334
tradition of academic independence in, 285
Russian Academy of Sciences:
historical reference to, 369
Russian language and literature:
entrance examination in, 179 f.
Rybkin, N.:
reference to a textbook by, 74

Salaries:
Academician, 305, 306 f.

Salaries:
criticism of academic, 307 f.
effect of academic degree on, 308
engineering graduates, 376
higher education faculty, 52, 300, 303–309
industrial average (1940), 175 n.
laboratory technicians, 110
recent examples of, 306
relationship to teaching load in higher education, 302 f.
school teacher, 52
Soviet and U.S. relative scale of, 309
tehnicum graduate, 110 f.
technicum teacher, 110
U.S. academic, 308 n.
Scholarships:
adequacy of, 177–178
basis for awarding, 342
evaluation of achievement and, 341
graduate school, 376–378
higher education, 175–178
technicum, 110–111
School calendar:
higher education, 213–214, 225–227
Schools for Rural Youth, 6
Schools for Working Youth, 4
see also Class hours; Term of instruction
School construction:
boarding schools, 37
higher education, 322
new Moscow University, 318, 322 f.
secondary education, 38–40
technicums, 118
School No. 201 in Moscow:
cited on facilities, 41
Schools
see Boarding schools; Elementary school; Engineering institutes (VTUZY); Institutes; Institutions of higher education (VUZY); Military schools; Schools for defective children; Schools for Rural Youth; Schools for Working Youth; Seven-year school; Technical trades schools; Technicum; Ten-year school; Trade schools; Universities
Schools for defective children:
directives on, 21
Schools for Rural Youth:
compared with regular schools, 2, 7
history of, 6
Schools for Working Youth:
compared with regular schools, 2, 5–7
history of, 4
Schools of Specialized Secondary Education
see Technicum
Science:
engineering training in, 254
high school (U.S.), 98
high school (U.S.), requirements in, 61–64
higher education in, 256
importance of languages in, 230
MIT and training in, 260 n.
schools of higher education in, 135
Soviet priority in, 69 f., 183 f.
ten-year school, 98
ten-year school syllabi in, 68
Scientific manpower:
"battle for," 407–408
communist expansion and, 409 f.
Selection:
expansion of enrollment and, 335
factors influencing, 187–190
for graduate training, 377
rate of attrition and, 195
"surplus" of ten-year school graduates and, 196
variations in standards of, 172
see also Admission requirements
Semiletka
see Seven-year school
Seven-year school:
part of the ten-year school system, 1
Shal'nikov, A. I.:
equipment designed under supervision of, 319
Shcherbakovsk Aviation Technology Institute:
cited, 139 n.
Shchigolev, B. M.:
equipment designed under supervision of, 319
Shop training:
in schools of engineering, 271, 338, 456
in ten-year schools, 30 f., 40
list of equipment for schools, 421–422

Shortened courses of instruction:
engineering specialties, 192
teacher training, 46
Ukrainian ten-year school plan of, 53 f.
Slavyanov, N. G.:
cited in physics syllabus, 184
Social origin of students:
changing pattern of, 189 f.
see also Discrimination
Social science:
advanced training in, 383
in higher education, 231–232
indoctrination and, 412
lectures in, 333 f.
see also Curricula
"Socialist competition":
in ten-year schools, 76, 77
Sokolov, I. I.:
reference to a textbook by, 73
Solid state physics:
subjects for specialization in, 268
"Sovetskaya Nauka":
cited, 148
Soviet education:
as a challenge, 414
as a threat, 415 f.
as an evolutionary force, 415
communist state aims and, 398–399
comparison with wartime training elsewhere, 399
pressure to decentralize control of, 404 f.
quality, numbers, and motivation in, 413
since Stalin's death, 413, 414
strengths of, 404 f.
weaknesses of, 404 f.
"Soviet's Scientific Elite":
cited on graduate school statistics, 392
Sovmestitel'stvo (multiple-job holding):
additional income through, 303
by members of the teaching staff, 297–300
intra-institutional, 300 f.
regulations on (1956), 303
Sovnarkom (Council of Commissars)
see Council of Ministers
Specialized subjects:
in engineering curricula, 252–254
spetsializatsiya ("specialization"):
cited, 155 n.
see Fields of specialization
Spetsial'nost' ("specialty"):
cited, 155 n.
see Fields of specialization
Spetsotdel (Special Department):
in institutions of higher education, 145, 147, 153
Sredneye spetsial'noye obrazovaniye (secondary specialized education):
cited, 117 n.
see Technicum
Srednyaya shkola (secondary school)
see Ten-year school
Stalin, I. V.:
reference to *Marxism and the Question of Linguistics,* 228
Russian language and, 179
school textbooks and the "personality cult," 73
Stalingrad Institute of City Economy:
cited on training staff replacements, 287
Starshyi prepodavatel' (senior instructor):
cited, 282 n.
State Optical Institute (GOI):
historical reference to, 321 n.
Stazh (practical experience):
reference to, 375
Steel Casting:
estimated author's royalty for, 314
Stepen'
see Academic degree
Stipendiya
see Scholarship
Strength of Materials:
cited, 313
Structure of Matter:
undergraduate option in, 269
Student housing:
examples of conditions in, 322–323
Student living expenses:
example of dormitory charge, 323
Student-teacher ratio:
in higher education, 293–297
size of teaching staff and, 303
Students-per-school ratio:
engineering institutes, 143
institutions of higher education, 132 f.

"Study of College Student Retention and Withdrawal":
cited, 195
Subjects of instruction
see Curricula
see also Chemistry; Mathematics; *Mnogopredmetnost';* Physical education; Physics; Social science
"Success ratio:"
correspondence student, 199
in the United States, 194 f.
promotional examinations and, 340 f.
undergraduate resident student, 194 f.
Supreme Soviet on the National Economy (VSNKh):
historical reference to, 369
Suvorov schools:
cited, 8
Syllabi:
higher education, 222 f., 456
mathematics (grades V–X), 423–426
relationship to lectures, 329 f.
technicum, 456
ten-year school, 68–71
uniformity of school, 1
"System of Pay for Scholars and Scientists Must be Changed":
excerpts from, 307 f.

Tallin Polytechnic Institute:
cited on the admissions quota, 212
Tartu University:
cited on the teaching of physics, 270
Tatevskii, V. M.:
equipment designed under supervision of, 319
Teachers:
appointment of university graduates as, 362 f.
boarding school, 37 f.
curriculum in training of mathematics, 271–276
foreign language, 229–230
of Marxism-Leninism, 282 n.
qualifications of, 44
role of, 33, 36, 69
salaries of, 52, 306
specialization categories of, 227
status of, 51 f.
supply of, 30, 43–46, 51, 131, 272 n.
Teachers:
technicum, 118
ten-year school, 42–52
ten-year school mathematics, 272 n., 275
ten-year school physics, 272 n.
training of, 30, 150
see also Teaching staff
Teachers Institute:
definition of, 47
diminishing role of, 191 n.
Teaching:
"formalism" in, 79
in conjunction with research, 297 f.
role of textbooks, 333
Teaching aids:
motion pictures, 330
Teaching load:
formulation of *uchebnyi plan* and, 302
in higher education, 300–303
relationship to compensation, 302 f.
research opportunities and, 371
term projects supervision, 340
Teaching practice:
Pedagogical Institute provision for, 276
Teaching staff:
administrative duties, 300 f.
age distribution of, 289, 290–292
appointment of, 283–290, 464–465
composition of university, 288
distribution by titles and degrees, 283, 284
distribution by years of teaching experience, 291–292
inbreeding in, 286–287
institutions of higher education, 281–309
number, rank, and title for selected years, 288 f.
Party affiliations, 292
planned composition of, 287
positions and salaries of, 303–305
proportion of women on, 293
relative to enrollment, 293–297
salaries, 300, 303–309
shortage of senior members in, 287–290
student-teacher ratio and size of, 303
tenure, 283–290

Teaching staff:
work load of, 300–303
Technical Department of the USSR Academy of Sciences:
cited, 369
Technical institutes (U.S.):
admission requirements, 123
as counterpart of technicums, 102, 104, 121
Technical trades schools:
defined, 12–14
surplus of ten-year school graduates and, 26
Technicians:
distribution of in 1940, 114
U.S. survey of training, 450–452
USSR-U.S. ratio of enrollment, 401
Technicians-engineer ratio:
efforts to increase, 109 f.
in U.S., 113
Technicum:
admission requirements, 101, 120, 121
as college preparatory schools, 15
comparison with ten-year schools, 9, 10, 123
purpose and objectives of, 9
short courses in, 26
training by correspondence, 199–201
vs. engineering schools, 121
Technicum graduates:
higher education and, 15, 113–114
Technische Hochschule:
terms of instruction in, 64 n.
Tekhnicheskiye uchilishcha (technical trade schools):
defined, 12–14
surplus of ten-year school graduates and, 26
Tekhnik (engineering technician):
defined, 104
Tekhnikum
see Technicum
Telesnin, R. V.:
equipment designed under supervision of, 319
Tenure:
faculty positions, 285–290
subject to periodic competition, 464–465
Ten-year school:
coeducation in, 1
compared with high school, 1
differentiation within, 26, 33, 53
final examination in algebra, analysis of, 433–438
final examination in physics, analysis of, 439–446
history of, 8, 22
regional variations, 1, 2
"surplus" of graduates, 402–403
three progressive levels in, 1
uniformity of, 1 f., 38, 76
Term of instruction:
accelerated programs, 192
aspirantura, 376
engineering institutes, 191 f.
FZO schools, 11
higher education, 190–192, 213, 225–227
Labor Reserve schools, 10 f.
MVTU vs. MIT, 236 f.
Pedagogical Institutes, 48, 50, 275–276
Pedagogical Schools, 46
Teachers Institutes, 47
technical trades schools, 12–13
technicums, 9, 101, 120
Term projects:
in engineering curricula, 338–340
MVTU curriculum, time allocated to, 237
per cent of time allocated for, 226
staff supervision of, 301
Testing
see Aptitude tests; Examinations
Textbooks for higher education:
approval of, 150
cost of selected, 177
efforts to "stabilize," 316–317
fees paid for writing, 314, 316
planning for revision of, 456
supply of, 315–317
teaching load and, 333
translated into English, 311, 326
two distinct types of, 314
vs. lecture notes, 118, 315
Textbooks for schools:
algebra, list of, 430
arithmetic, list of, 429 f.

Textbooks for schools:
chemistry, list of, 429
drafting manual, 432
geometry, list of, 431
physics, list of, 427–429
role and supply of, 71–75
trigonometry, list of, 431 f.
Textbooks for technicums:
approval of, 115 n.
shortage of, 118
Theoretical physics:
subjects for specialization in, 267
Theory of Mechanisms and Machines:
cited, 310
Tickets for oral examinations:
arrangement of, 83
definition of, 81
ten-year school algebra, 85–90
ten-year school physics, 90–96
use of, 85
Tiraspol' Pedagogical Institute:
student-teacher ratio, 295
Titles:
undergraduate, 227
see also Academic titles
"To Increase the Scientific Importance of Evaluations Made by the Official Opponents:"
excerpt from, 386
Trade schools:
for ten-year school graduates, 12–14
of the USSR Labor Reserve, 11–14
Training:
vs. education, 406–408
Training and Scientific Cinematography:
kafedra of, 331
Trigonometry:
list of school textbooks, 431 f.
TsAGI (Central Aerodynamic and Hydrodynamic Institute):
cited, 285
Tsiyolkovskii, K. E.:
cited in a physics syllabus, 183
TsKL (Central Film Laboratory):
cited, 330 f.
Tuition:
boarding schools, 33
constitutional provision on, 3 n.
higher education, 175
ten-year school, 41–42
Uchebnik (textbook):
distinction from *uchebnoye posobiye,* 314
Uchebnoye posobiye (reference text):
distinction from *uchebnik,* 314
Uchebnye novosti (*News of the Teaching World*):
cited, 283
Uchebnyi plan ("academic plan"):
aspirantura, 378–379
broader specialization and, 255
definition of, 209
elective subjects and, 219–221
fields of specialization and, 214, 219
for graduate students, 378–379
formulation of, 210–213, 302
recent trends and, 276 f.
textbooks and, 312 f.
see also Class hours; Curricula
Uchilishche
see Schools
Uchitel'skii institut:
see Teachers Institute
Uchpedgiz:
control of, 69
school textbooks and, 71
"Uchpromtekhsnab"·
cited, 148
Ukrainian SSR:
"industrial education," 53 f.
Ministry of Higher Education, 145 n., 299
Undergraduate training:
academic mortality in, 194 f.
qualitative factors in, 354–357
Unified Labor School:
historical reference to, 20
Uniforms for pupils:
reintroduction of, 21
United States:
academic calendar, 213–214
accredited schools of engineering in, 278 n.
American Society for Engineering Education, 103 n., 213, 278, 309, 450–452
average yearly earnings in, 308 n.
Baltimore Polytechnic Institute, 61
Brooklyn Technical High School, 61

United States:
California Institute of Technology, 296, 297
Central Scientific Company, 41
civil service salaries, 306 n.
class hours in high schools, 43
class hours per week, 223 f.
College Board examinations, 88, 96, 97, 434, 440
college enrollment, 132 n.
College Entrance Examination Board, 87, 89
Cornell University, 295
educational tasks of, 408 f., 410 f.
Educational Testing Service, 433, 439
general vs. professional education in, 26
graduate enrollment, 296
high school attendance, 26
high school enrollment, 97 n.
high school mathematics, 61–64, 88, 97
high school physics, 97–98
high school science, 61–64
industry support of graduate training, 377
make-up courses, 232
number of earned degrees in selected years, 360 n.
prewar college enrollment, 134 n.
pupil-per-school ratio, 39
pupil-teacher ratio, 43
student-teacher ratio, 294–297
technical institute graduations in, 127
technical institutes, 103 n., 112–113
technician enrollment and graduation, 450–452
ten-year school curriculum compared with high school load, 61–64
undergraduate academic mortality, 194 f.
Wentworth Institute, 124
Universal education:
elementary, 2
drive to achieve, 22
legislation on, 2, 3, 4, 27
progress toward, 11, 402 f.
seven years of, 3
teacher supply and, 46
teacher training and, 47 f., 136 n.
ten-year school, 28
Universal education:
ten-year school vs. ten years of, 3, 4, 120
tsarist Russia progress toward, 2
tuition and, 42
Universities:
correspondence facilities at, 156, 157
distinction between institutes and, 135
enrollment by faculties in 1955–1956, 202–204
list of, 156
mathematics curriculum, 272–275
number of, 135
school teacher supply and, 50 f.
University of California:
student-teacher ratio, 294, 295
University of Denver:
student-teacher ratio, 295
University of Houston:
student-teacher ratio, 295
University of Illinois:
Committee on School Mathematics, 436
student-teacher ratio, 294, 295
University of Kharkov:
dormitory facilities at, 323
equipment at, 321
University of Leningrad:
reputation of, 321
Ural Industrial Institute:
cited on *sovmestitel'stvo,* 299
Uralmashzavod:
cited on the facilities for student practice, 344

Vacations:
higher education faculty, 300
undergraduate student, 226
VAK
see Higher Attestation Commission
VAKhZ (Military Academy of Chemical Defense Named after K. E. Voroshilov):
cited, 133
Vechernii institut
see Evening schools (of higher education)
Veterans of World War II:
admission privileges of, 170
experience with as students, 171

VIA (Military Engineering Academy Named afted V. V. Kuibyshev):
cited, 134
VISU (Higher School of Construction Engineering):
cited, 134
Visual aids:
planning, control, distribution of, 330–332
VKhA (Voroshilov Military Academy of Chemistry):
cited, 133
VKSKhS (Communist Agricultural Schools of Higher Education):
historical reference to, 131
VKhTU (Higher School of Chemical Technology):
cited, 133
VKVSh (Committee on the Higher School):
history and functions of, 146–150
proposal to revive, 145 n.
technicums and, 116
VMMU (Higher Mechanical-Machine Construction School):
cited, 133
Vocational training:
expansion of, 27
general education and, 28
see also Labor Reserve of the USSR; Polytechnic instruction; Technicums
Voroshilovgrad Pedagogical Institute:
enrollment and graduations of correspondence students, 198
Vospitaniye (nurture, upbringing):
"Leninist thesis" on, 231
VSNKh (Supreme Soviet on the National Economy):
cited, 369
VTUZY
see Engineering institutes
VUZY
see Institutions of higher education

Wages:
examples of, 306
minimum, 307
"War Communism":
historical reference to, 130
War reparations:
scientific apparatus and, 321
Wentworth Institute:
specialized vs. general subjects in a sample curriculum, 124
"Will of the Party Is the Law for Youth":
cited, 411
Women:
faculty members, 293
per cent among undergraduates, 201
per cent in labor force, 293 n.
school teachers, 43, 51
Workshops:
in institutions of higher education, 271, 338, 456
list of equipment for school, 421–422
school, 30 f., 40
World War I:
effect on education, 130
research and development following, 369
World War II:
effect on education, 22, 23 n.
effect on secondary education, 3
higher education and, 134
reconstruction task following, 318
sex composition of faculty members and, 293
teacher supply and, 42
veterans of, 101
Written examinations:
ten-year school, 83 n.
see also Entrance examinations; Examinations; Final examinations; Promotional examinations

X-ray physics:
subjects for specialization in, 268

Yablochkov, P. N.:
cited in physics syllabus, 184
Yakutsk State University:
opening of cited, 135 n.
Yale University:
student-teacher ratio, 295
Yedinaya trudovaya shkola (Unified Labor School):
cited, 20

Zachety (ungraded examinations of assigned work):
criteria in, 341
defined, 221
foreign language, 229
Zaochnyi fakul'tet (correspondence faculty or department)
see Correspondence schools and departments
Zaochnyi institut (correspondence institute)
see Correspondence schools and departments
Zaporozh'ye Agricultural Machinery Institute:
expansion of extension facilities, 142
Zhukovskii, N. E.:
cited in a physics syllabus, 183
Zhukovskii Military Air Academy
see Military Air Engineering Academy Named after N. E. Zhukovskii
Znamenskii, P. A.:
reference to a textbook by, 90
"Zubryoshka"
see "Cramming"
Zvaniya (titles):
advanced degree and, 282
distribution of teaching personnel by, 283
regulations on, 460–461
selection for, 164
teaching position and, 282