

ablation

BT surface treatment
 NT laser ablation
 RT melting
 vaporisation
 PT materials preparation
 surface treatment
 CC A8160 Corrosion, oxidation,
 etching, and other surface treatments
 B2550E Surface treatment
 (semiconductor technology)
 E1520N Surface treatment and coating
 techniques
 DI January 2026

acoustic metasurfaces

BT acoustic metamaterials
 RT acoustic resonance
 acoustic wave reflection
 acoustic wave refraction
 PT acoustic metamaterials
 CC A4338 Acoustic metamaterials
 DI January 2026

acoustic sensors

UF acoustic detectors
 BT sensors
 NT surface acoustic wave sensors
 RT acoustic transducers
 bulk acoustic wave devices
 surface acoustic wave transducers
 ultrasonic transducers
 PT acoustic transducers
 CC A4385D Measurement of acoustic
 variables
 A4385G Measurement by acoustic
 techniques
 A4388 Transduction; devices for the
 generation and reproduction of sound
 B7230 Sensing devices and transducers
 B7320Q Acoustic variables measurement
 DI January 2026

additive manufacturing

[promoted lead-in]

BT CAD/CAM
 NT rapid prototyping (industrial)
 three-dimensional printing
 RT computer aided engineering
 computer integrated manufacturing
 design for manufacture
 industrial control
 laser sintering
 layered manufacturing
 production engineering computing
 stereolithography
 CC C3350L Control applications in
 printing and associated industries
 C7160 Manufacturing and industrial
 administration
 C7480 Production engineering
 computing
 E0410D Industrial applications of IT
 E1400 Design
 E1510 Manufacturing systems
 E1520R Three-dimensional printing
 DI January 2026

AI ethics

UF AI bias
 AI fairness
 algorithmic bias (AI)
 bias (AI)
 fairness (AI)
 machine learning bias

BT artificial intelligence
 computer ethics

RT computer crime
 data privacy
 data science
 decision making
 decision support systems
 DP industry
 DP management
 educational administrative data
 processing
 explainable AI
 gender issues
 generative AI
 government policies
 health care
 human factors
 intelligent robots
 law
 law administration
 medical computing
 military computing
 philosophical aspects
 prejudicial factors
 public safety
 recruitment
 trusted computing

PT artificial intelligence
 ethical aspects
 social aspects of automation

CC C0230 Economic, social and
 political aspects of computing
 C1230 Artificial intelligence
 (theory)
 C6210 Knowledge based systems

DI January 2026

amino acids [promoted lead-in]

BT organic compounds
 RT proteins
 PT organic compounds
 DI January 2026

aqueous batteries

BT secondary cells

RT battery charge measurement
 battery chargers
 battery management systems
 battery storage plants
 battery testers
 electrochemical electrodes
 electrolytes
 fuel cells
 hybrid power systems
 sodium compounds
 zinc compounds

PT secondary cells

CC A8630F Secondary cells
 B8410E Secondary cells

DI January 2026

ASTM standards

BT standards

RT materials testing
 product quality
 production testing
 safety

CC E1650 Standards and calibration

DI January 2026

carbon dots

BT carbon
 quantum dots

RT fluorescence
 nanodots
 nanomedicine

PT quantum dots

CC A6146 Structure of quantum and
 nanomaterials (inc. nanoparticles,
 nanotubes, nanowires, quantum dots, quantum
 wires and quantum wells)
 A7315N Electronic structure of
 graphene and graphene-related materials
 (thin films, low dimensional and nanoscale
 structures)
 A7360T Electrical properties of
 graphene and graphene-related materials
 (thin films, low-dimensional and nanoscale
 structures)
 A7865V Optical properties of
 graphene and graphene related materials (thin
 films, low-dimensional and nanoscale
 structures)

DI January 2026

Cauchy problem

BT partial differential equations
 PT partial differential equations
 CC A0230 Function theory, analysis
 A0260 Numerical approximation and analysis
 DI January 2026

chromophores

RT bio-optics
 colour
 molecular biophysics
 optical materials
 optical properties
 PT optical materials
 CC A4270 Optical materials
 A7800 Optical properties and condensed matter spectroscopy and other interactions of matter with particles and radiation
 A8700 Biophysics, medical physics, and biomedical engineering
 DI January 2026

chronoamperometry (chemical analysis)

BT electrochemical analysis
 RT amperometric sensors
 electrochemical electrodes
 PT electrochemical analysis
 CC A8280F Electrochemical analytical methods
 DI January 2026

cold pressing

BT pressing
 RT presses
 PT pressing
 CC A8120 Other methods of preparation of materials
 E1520G Forming processes
 DI January 2026

composite thin films

BT thin films
 PT composite materials
 thin films
 CC A6855 Thin film growth, structure, and epitaxy
 A6860 Physical properties of thin films, nonelectronic
 A7315P Electronic structure of composite materials (thin films, low dimensional and nanoscale structures)
 A7360V Electrical properties of composite materials (thin films, low-dimensional and nanoscale structures)
 A7570 Magnetic films, multilayers and low-dimensional structures
 A7865R Optical properties of composite materials (thin films, low-dimensional and nanoscale structures)
 DI January 2026

compost

BT agriculture
 RT agricultural engineering
 agricultural pollution
 agricultural products
 agrochemicals
 biochar
 fertilisers
 gardening
 horticulture
 organic compounds
 organic farming
 recycling
 soil
 soil moisture
 PT agriculture
 CC E1780 Products and commodities
 E3010 Agriculture
 DI January 2026

compressive stress

- UF compressive strain
- BT mechanical properties
- RT deformation
- PT mechanical properties
- CC A0340 Classical mechanics of continuous media: general mathematical aspects
- A4630 Mechanics of solids
- A6220F Deformation and plasticity
- A8140L Deformation, plasticity and creep
- E2180B Plasticity (mechanical engineering)
- DI January 2026

computer accessibility

- UF accessible computing
- BT handicapped aids
- RT human computer interaction
- human factors
- medical disorders
- social aspects of automation
- user interfaces
- PT handicapped aids
- CC C0240 Ergonomic aspects of computing
- C6180 User interfaces
- C7850 Computer assistance for persons with handicaps
- DI January 2026

computer ethics

- UF algorithmic bias
- ethical aspects of computing
- ethics of computing
- BT ethical aspects
- social aspects of automation
- NT AI ethics
- RT computer crime
- data privacy
- decision making
- decision support systems
- DP industry
- DP management
- gender issues
- government policies
- human factors
- law
- legislation
- philosophical aspects
- prejudicial factors
- public safety
- trusted computing
- PT ethical aspects
- CC C0230 Economic, social and political aspects of computing
- DI January 2026

contrastive learning

- BT data augmentation
- self-supervised learning
- RT data handling
- deep learning (artificial intelligence)
- feature extraction
- image classification
- image representation
- pattern classification
- representation learning
- PT machine learning
- CC C1230L Learning in AI (theory)
- C6261 Supervised learning
- C6262 Unsupervised learning
- DI January 2026

criminal activity

UF crime
 hate crime
 BT social sciences
 NT computer crime
 counterfeit goods
 criminal law
 fraud
 terrorism
 RT access control
 closed circuit television
 explosives
 forensic science
 government policies
 industrial property
 law
 law administration
 legislation
 national security
 police
 police data processing
 public administration
 public safety
 smart cities
 socio-economic effects
 surveillance
 video surveillance
 weapons
 PT social sciences
 DI January 2026

dynamic light scattering

UF optical scattering
 BT light scattering
 RT particle size
 photon correlation spectroscopy
 suspensions
 turbidity
 PT light scattering
 CC A4225F Optical diffraction and scattering
 A5170 Optical phenomena in gases
 A7800 Optical properties and condensed matter spectroscopy and other interactions of matter with particles and radiation
 DI January 2026

evapotranspiration (hydrological)

BT evaporation
 transpiration
 RT hydrological techniques
 hydrology
 PT evaporation
 transpiration
 CC A9240J Evaporation and transpiration (hydrological)
 DI January 2026

exfoliation (materials)

UF peeling
 BT surface treatment
 RT ball milling
 delamination
 graphene
 nanocomposites
 nanofabrication
 surface phenomena
 PT surface treatment
 CC A8160 Corrosion, oxidation, etching, and other surface treatments
 E1520N Surface treatment and coating techniques
 DI January 2026

flyback convertors

BT power convertors
 RT choppers (circuits)
 DC-DC power convertors
 power conversion
 power electronics
 power supplies to apparatus
 power supply circuits
 zero current switching
 zero voltage switching
 PT power convertors
 CC B1210 Power electronics, supply and supervisory circuits
 B8360D DC-DC power convertors
 DI January 2026

high-entropy alloys

BT alloys
 RT metals
 PT alloys
 DI January 2026

incompressible flow

BT flow
 RT compressibility
 compressible flow
 PT flow
 CC A4700 Fluid dynamics
 DI January 2026

infrared radiation effects

BT radiation effects
 PT radiation effects
 CC A6180B Ultraviolet, visible and
 infrared radiation effects
 B2550R Radiation effects
 (semiconductor technology)
 DI January 2026

k-nearest neighbour methods *[promoted lead-in]*

UF K-nearest neighbor methods
 K-NN methods
 KNN methods
 BT nearest neighbour methods
 supervised learning
 RT decision trees
 feature extraction
 image classification
 pattern classification
 regression analysis
 PT nearest neighbour methods
 CC A0250 Probability theory,
 stochastic processes, and statistics
 B0240Z Other topics in statistics
 C1140Z Other topics in statistics
 C1230L Learning in AI (theory)
 C6130 Data handling techniques
 C6261 Supervised learning
 E0210J Statistics
 DI January 2026

laminar boundary layers *[promoted lead-in]*

BT boundary layers
 laminar flow
 RT aerodynamics
 PT boundary layers
 laminar flow
 CC A4715C Laminar boundary layers
 DI January 2026

Langmuir adsorption

UF Langmuir model
 BT adsorption
 RT adsorbed layers
 heat of adsorption
 PT adsorption
 CC A6845D Adsorption and desorption
 kinetics; evaporation and condensation
 A8265M Sorption and accommodation
 coefficients (surface chemistry)
 E1525A Adsorption
 DI January 2026

lignin

BT polymers
 RT biofuel
 biotechnology
 carbon fibres
 cellulose
 renewable materials
 PT polymers
 CC A8120S Preparation of organic
 materials, polymers and plastics
 A8610A Biofuel and biomass resources
 E1710 Engineering materials
 E3628 Biotechnology industry
 DI January 2026

long short-term memory networks

UF LSTM
 BT recurrent neural nets
 RT convolutional neural nets
 deep learning (artificial
 intelligence)
 feature extraction
 object detection
 time series
 PT recurrent neural nets
 CC B1295 Neural nets (circuit
 implementations)
 C1230D Neural nets (theory)
 C5190 Neural nets (circuit
 implementations)
 C6264R Recurrent neural nets
 DI January 2026

magnetic entropy

- RT magnetic structure
magnetocaloric effects
- PT magnetocaloric effects
- CC A7525 Spin arrangements in magnetically ordered materials
A7530 Magnetically ordered materials, other intrinsic properties
- DI January 2026

marine traffic

- BT traffic
- RT boats
marine navigation
marine vehicles
ships
traffic control
traffic engineering computing
underwater vehicles
- PT marine systems
traffic
- CC B8520 Transportation
C3360J Marine system control
C7175 Transportation administration
C7445 Traffic engineering computing
- DI January 2026

martensitic stainless steel

- BT martensitic steel
stainless steel
- RT martensitic structure
- PT martensitic steel
stainless steel
- CC A8160B Surface treatment and degradation of metals and alloys
E1710 Engineering materials
- DI January 2026

microspheres

- UF microbeads
- RT biomedical materials
colloids
drug delivery systems
microcavities
optical materials
optical resonators
- CC A4270 Optical materials
A8770M Biomedical materials
- DI January 2026

nutrition

- UF calorie trackers
dietetics
food menu planning
food trackers
food tracking apps
healthy eating
malnutrition
meal planning
- BT health care
- RT biochemistry
catering industry
developing countries
food manufacturing
food packaging
food processing industry
food products
food security
home computing
labelling (packaging)
mobile computing
organic compounds
patient care
proteins
socio-economic effects
sugar
- PT health care
- DI January 2026

oxidation resistance

- BT oxidation
- RT corrosion resistance
passivation
- PT corrosion
- CC A8160 Corrosion, oxidation, etching, and other surface treatments
E1520N Surface treatment and coating techniques
- DI January 2026

phosphorene

- BT phosphorus
- RT elemental semiconductors
nanostructured materials
- PT phosphorus
- CC A6148 Structure of graphene and
graphene-related materials
A7315N Electronic structure of
graphene and graphene-related materials
(thin films, low dimensional and nanoscale
structures)
A7360T Electrical properties of
graphene and graphene-related materials
(thin films, low-dimensional and nanoscale
structures)
A7865V Optical properties of
graphene and graphene related materials (thin
films, low-dimensional and nanoscale
structures)
A8120V Preparation of graphene and
graphene-related materials,
intercalation compounds, and diamond
B0587 Fullerenes, carbon nanotubes,
and related materials (engineering
materials science)
B2230F Fullerene, nanotube and
related devices
- DI January 2026

plasma electrolytic oxidation *[promoted lead-in]*

- BT electrodeposition
oxidation
plasma deposition
- PT electrodeposition
oxidation
plasma deposition
- CC A5275R Plasma applications in
manufacturing and materials processing
A8115L Deposition from liquid phases
(melts and solutions)
A8160 Corrosion, oxidation, etching,
and other surface treatments
B0520J Deposition from liquid phases
E1520N Surface treatment and coating
techniques
- DI January 2026

quantum sensors

- BT sensors
- RT biosensors
magnetic sensors
optical sensors
quantum entanglement
quantum optics
quantum theory
- PT sensors
- CC A0670D Sensing and detecting
devices
A0700 Specific instrumentation and
techniques of general use in physics
B7230 Sensing devices and transducers
- DI January 2026

railway engineering computing

- BT engineering computing
railway engineering
- RT mechanical engineering computing
public transport
rail traffic
rail traffic control
railway industry
railway safety
railways
traffic engineering computing
vehicle dynamics
- PT railway engineering
- CC C7455 Railway engineering
computing
E0410H Mechanical engineering
applications of IT
- DI January 2026

refractory metals

- BT metals
- NT molybdenum
niobium
rhenium
tantalum
tungsten
- PT metals
- DI January 2026

research paper mills

- UF academic paper mills
- fake journal papers
- paper mills (publishing)
- paper mills (research)
- predatory publishing
- BT publishing
- RT copyright
- ethical aspects
- fraud
- information industry
- legislation
- professional aspects
- research and development
- PT publishing
- CC C7230 Publishing and reproduction
- DI January 2026

roasting (materials processing)

- BT materials preparation
- RT food processing industry
- mineral processing
- sintering
- waste recovery
- CC A8120 Other methods of preparation of materials
- E1525Z Other Industrial processes
- E3020 Mining, oil drilling and natural gas industries
- E3602 Food industry
- E3626 Chemical industry
- E3636 Metallurgical industries
- DI January 2026

screen printing (electronics)

- BT electron device manufacture
- RT design for manufacture
- digital printing
- electronic equipment manufacture
- electronics industry
- flexible electronics
- ink jet printing
- integrated circuit technology
- printed circuit manufacture
- printed circuits
- semiconductor industry
- thick film devices
- CC B0170E Production facilities and engineering
- B0170G General fabrication techniques
- B2210D Printed circuit manufacture
- B2220 Integrated circuits
- B2550 Semiconductor technology
- B2570 Semiconductor integrated circuits
- E1520N Surface treatment and coating techniques
- E3644 Electronics industry
- DI January 2026

self-supervised learning *[promoted lead-in]*

- UF SSL (self-supervised learning)
- BT supervised learning
- unsupervised learning
- NT contrastive learning
- RT feature extraction
- image classification
- neural nets
- pattern classification
- PT supervised learning
- unsupervised learning
- CC C1230L Learning in AI (theory)
- C6261 Supervised learning
- C6262 Unsupervised learning
- DI January 2026

sound pressure

- UF acoustic pressure
- BT acoustics
- RT acoustic impedance
- acoustic intensity
- hydrophones
- microphones
- PT acoustics
- CC A4300 Acoustics
- DI January 2026

spiking neural networks

- UF SNN (spiking neural nets)
- BT neural nets
- RT deep learning (artificial intelligence)
neural chips
neuromorphic engineering
- PT neural nets
- CC B1295 Neural nets (circuit implementations)
C1230D Neural nets (theory)
C5190 Neural nets (circuit implementations)
C6264 Neural nets
- DI January 2026

submillimetre wave communication

- UF terahertz communication
THz communication
- BT radiocommunication
- RT submillimetre wave propagation
- PT radiocommunication
- CC B5210C Radiowave propagation
B6250 Radio links and equipment
B7930G Radio communications (military and defence)
- DI January 2026

terahertz metasurfaces

- BT terahertz metamaterials
- RT optical metamaterials
- PT terahertz metamaterials
- CC A4270T Optical metamaterials
A7870G Microwave, radiofrequency and terahertz wave interactions with condensed matter
B1305 Microwave materials and structures
B4110 Optical materials
- DI January 2026

van der Waals heterostructures

- BT semiconductor heterojunctions
- RT semiconductor quantum dots
semiconductor quantum wells
semiconductor quantum wires
two-dimensional electron gas
- PT semiconductor heterojunctions
- CC A7340L Electrical properties of semiconductor-to-semiconductor contacts, p-n junctions, and heterojunctions
A7360 Electrical properties of thin films, low-dimensional and nanoscale structures
B2530B Semiconductor junctions
B2530C Semiconductor superlattices, quantum wells and related structures
- DI January 2026

YOLO algorithms

- UF You Only Look Once algorithm
- BT convolutional neural nets
object detection
- RT computer vision
deep learning (artificial intelligence)
feature extraction
image classification
image segmentation
- PT convolutional neural nets
object detection
- CC B6135E Image recognition
C5260B Computer vision and image processing techniques
C6264C Convolutional neural nets
- DI January 2026