

# AP Physics C: Mechanics

Glossary · · every term in the course, A–Z

| English                                                                                                                                    | Pinyin                    |
|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| accelerating                                                                                                                               | jiā sù                    |
|  acceleration<br><i>/ək,sələ'reɪʃn/</i>                   | jiā sù dù                 |
|  action-reaction pair<br><i>/'ækʃn rɪ'ækʃn peə/</i>       | zuò yòng fǎn zuò yòng duì |
| altitude                                                                                                                                   | hǎi bá                    |
|  amplitude<br><i>/'æmplɪtju:d/</i>                        | zhèn fú                   |
|  angular acceleration<br><i>/'æŋgjuələ ək,sələ'reɪʃn/</i> | jiǎo jiā sù dù            |
|  angular displacement<br><i>/'æŋgjuələ dɪ'spleɪsmənt/</i> | jiǎo wèi yí               |
|  angular frequency<br><i>/'æŋgjuələ 'fri:kwənsi/</i>      | jiǎo pín lǜ               |
|  angular impulse<br><i>/'æŋgjuələ 'ɪmpʌls/</i>            | jiǎo chōng liàng          |
|  angular momentum<br><i>/'æŋgjuələ məʊ'mentəm/</i>        | jiǎo dòng liàng           |
|  angular position<br><i>/'æŋgjuələ pə'zɪʃn/</i>           | jiǎo wèi zhì              |
|  angular velocity<br><i>/'æŋgjuələ və'ləsɪti/</i>       | jiǎo sù dù                |
|  area<br><i>/'eəriə/</i>                                | miàn jī                   |
|  average power<br><i>/'ævərɪdʒ 'paʊə/</i>               | píng jūn gōng lǜ          |
|  average velocity<br><i>/'ævərɪdʒ və'ləsɪti/</i>        | píng jūn sù dù            |
| axis of rotation                                                                                                                           | zhuàn zhóu                |
| boat                                                                                                                                       | chuán                     |
|  cancel<br><i>/'kænsəl/</i>                             | dǐ xiāo                   |
|  center of mass<br><i>/'sentə ʊv mæs/</i>               | zhì xīn                   |

| English                                                                                                                                            | Pinyin                |
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|  centripetal acceleration<br><i>/sen'trɪpɪtl ək,sələ'reɪʃn/</i> | xiàng xīn jiā sù dù   |
|  centripetal force<br><i>/sen'trɪpɪtl fɔ:s/</i>                 | xiàng xīn lì          |
|  coefficient of friction<br><i>/,kəʊ'fɪʃənt ʊv 'frɪkʃn/</i>     | mó cā xì shù          |
|  collisions<br><i>/kə'lɪʒnz/</i>                                | pèng zhuàng           |
| component                                                                                                                                          | fèn liàng             |
| conservation of mechan-<br>ical energy                                                                                                             | jī xiè néng shǒu héng |
|  conservative force<br><i>/kən'sɜ:vətɪv fɔ:s/</i>               | bǎo shǒu lì           |
|  conserved<br><i>/kən'sɜ:vɪd/</i>                               | shǒu héng             |
|  contact forces<br><i>/'kɒntækt 'fɔ:sɪz/</i>                    | jiē chù lì            |
|  contact time<br><i>/'kɒntækt taɪm/</i>                         | jiē chù shí jiān      |
| coordinate axis                                                                                                                                    | zuò biāo zhóu         |
| cross product                                                                                                                                      | chā jī                |
| crosswind                                                                                                                                          | cè fēng               |
|  deformation<br><i>/,dɪ:fɔ:'meɪʃn/</i>                        | xíng biàn             |
|  derivative<br><i>/dɪ'rɪvətɪv/</i>                            | dǎo shù               |
|  differential equation<br><i>/,dɪfə'renʃl ɪ'kweɪʒn/</i>       | wēi fēn fāng chéng    |
| direction                                                                                                                                          | fāng xiàng            |
|  disk<br><i>/dɪsk/</i>                                        | yuán pán              |
|  displacement<br><i>/dɪ'spleɪsmənt/</i>                       | wèi yí                |
| distance                                                                                                                                           | jù lí                 |
| <i>/'dɪstəns/</i>                                                                                                                                  |                       |

| English                                                                                                                                                  | Pinyin                |
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|  distribution of mass<br><i>/ˌdɪstrɪˈbjʊːʃn ɒv mæs/</i>                 | zhì liàng fēn bù      |
|  dot product<br><i>/ˌdɒt ˈprɒdʌkt/</i>                                  | diǎn jī               |
|  elastic collision<br><i>/ɪˈlæstɪk kəˈlɪʒn/</i>                         | tán xìng pèng zhuàng  |
|  elastic potential energy<br><i>/ɪˈlæstɪk pəˈtɛnʃl ˈenədʒi/</i>         | tán xìng shì néng     |
|  elliptical orbit<br><i>/ɪˈlɪptɪkl ˈɔːbɪt/</i>                          | tuǒ yuán guǐ dào      |
|  energy lost<br><i>/ˈenədʒɪ lɒst/</i>                                   | sǔn shī de néng liàng |
|  equilibrium<br><i>/ˌɪkwɪˈlɪbrɪəm/</i>                                  | píng héng wèi zhì     |
|  escape velocity<br><i>/eˈskeɪp vəˈlɒsɪti/</i>                          | táo yì sù dù          |
|  explosions<br><i>/ekˈsplɒʒnz/</i>                                      | bào zhà               |
|  extended free-body diagram<br><i>/ekˈstendɪd friː ˈbɒdi ˈdaɪəgræm/</i> | kuò zhǎn shòu lì tú   |
|  field forces<br><i>/fiːld ˈfɔːsɪz/</i>                                 | chǎng lì              |
|  flywheel                                                               | fēi lún               |
|  force<br><i>/fɔːs/</i>                                               | lì                    |
|  force components                                                     | lì de fēn liàng       |
|  free fall<br><i>/friː fɔːl/</i>                                      | zì yóu luò tǐ         |
|  free-body diagram<br><i>/friː ˈbɒdi ˈdaɪəgræm/</i>                   | shòu lì tú            |
|  frequency<br><i>/ˈfriːkwənsi/</i>                                    | pín lǚ                |
|  Friction<br><i>/ˈfrɪkʃn/</i>                                         | mó cā lì              |
|  graphs                                                               | tú xiàng              |
|  gravitational field<br><i>/ˌgrævɪˈteɪʃənl fiːld/</i>                 | yǐn lì chǎng          |

| English                                                                                                                                                        | Pinyin                             |
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|  gravitational potential energy<br><i>/ˌgrævɪˈteɪʃənl pəˈtɛnʃl ˈenədʒi/</i> | yǐn lì shì néng                    |
|  Hooke's law<br><i>/hʊks lɔː/</i>                                           | hú kè dīng lǚ                      |
|  hoop<br><i>/huːp/</i>                                                      | yuán huán                          |
|  impulse<br><i>/ˈɪmpʌls/</i>                                                | chōng liàng                        |
|  impulse-momentum theorem<br><i>/ˈɪmpʌls məʊˈmentəm ˈθɪərəm/</i>            | chōng liàng dòng liàng dīng lǐ     |
|  impulse-momentum theorem<br><i>/ˈɪmpʌls məʊˈmentəm ˈθɪərəm/</i>            | - chōng liàng - dòng liàng dīng lǐ |
|  in parallel<br><i>/ɪn ˈpærələl/</i>                                        | bìng lián                          |
|  in series<br><i>/ɪn ˈsɪəriːz/</i>                                          | chuàn lián                         |
|  incline<br><i>/ɪnˈklaɪn/</i>                                               | xié miàn                           |
|  inelastic collision<br><i>/ɪnɪˈlæstɪk kəˈlɪʒn/</i>                         | fēi tán xìng pèng zhuàng           |
|  inertia<br><i>/ɪˈnɜːʃə/</i>                                                | guàn xìng                          |
|  inertial                                                                  | guàn xìng xì                       |
|  inertial reference frame<br><i>/ɪˈnɜːʃl ˈrefrəns freɪm/</i>              | guàn xìng cān kǎo xì               |
|  instantaneous power<br><i>/ˌɪnstənˈteɪmɪəs ˈpaʊə/</i>                    | shùn shí gōng lǚ                   |
|  instantaneous velocity<br><i>/ˌɪnstənˈteɪmɪəs vəˈlɒsɪti/</i>             | shùn shí sù dù                     |
|  integral<br><i>/ˈɪntɪgrəl/</i>                                           | jī fēn                             |
|  internal forces<br><i>/ɪnˈtɜːnl ˈfɔːsɪz/</i>                             | nèi lì                             |
|  isolated system<br><i>/ˈaɪsələɪtɪd ˈsɪstəm/</i>                          | gū lì xì tǒng                      |
|  joules<br><i>/dʒuːlz/</i>                                                | jiāo ěr                            |

| English                                                                                                                                 | Pinyin                                        |
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|  Kepler's second law<br><i>/'kepləz 'sekənd lɔː/</i>   | kāi pǔ lēi dì èr dìng lǚ                      |
| Kepler's third law<br><i>/'kepləz θɜːd lɔː/</i>                                                                                         | kāi pǔ lēi dì sān dìng lǚ                     |
| kinematic equations for<br>constant angular acceleration                                                                                | yún jiǎo jiā sù dù yùn dòng<br>xué fāng chéng |
|  kinematics<br><i>/ˌkɪnɪ'mætiks/</i>                   | yùn dòng xué                                  |
|  kinetic<br><i>/kɪ'netɪk/</i>                          | dòng mó cā                                    |
|  kinetic energy<br><i>/kɪ'netɪk 'enədʒi/</i>           | dòng néng                                     |
|  kinetic friction<br><i>/kɪ'netɪk 'frɪkʃn/</i>         | dòng mó cā                                    |
|  lever arm<br><i>/'liːvə ɑːm/</i>                      | lì bì                                         |
|  linear density<br><i>/'lɪniə 'densɪti/</i>            | xiàn mì dù                                    |
|  linear momentum<br><i>/'lɪniə məʊ'mentəm/</i>         | dòng liàng                                    |
| linear speed<br><i>/'lɪniə spiːd/</i>                                                                                                   | xiàn sù dù                                    |
|  magnitude<br><i>/'mæɡnɪtjuːd/</i>                     | dà xiǎo                                       |
|  mass<br><i>/mæs/</i>                                 | zhì liàng                                     |
| mass on a spring                                                                                                                        | tán huáng zhèn zi                             |
| maximum height                                                                                                                          | zuì dà gāo dù                                 |
| maximum speed                                                                                                                           | zuì dà sù lǚ                                  |
| measurement<br><i>/'meʒəmənt/</i>                                                                                                       | cè liáng                                      |
|  Mechanical energy<br><i>/mɪ'kænikl 'enədʒi/</i>     | jī xiè néng                                   |
|  moment arm<br><i>/'məʊmənt ɑːm/</i>                 | lì bì                                         |
|  natural frequency<br><i>/'nætʃərəl 'friːkwənsi/</i> | gù yǒu pín lǚ                                 |

| English                                                                                                                                                                            | Pinyin                                          |
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|  net external force<br><i>/net ek'stɜːnl fɔːs/</i>                                              | jìng wài lì                                     |
|  net force<br><i>/net fɔːs/</i>                                                                 | hé lì                                           |
|  net torque<br><i>/net tɔːk/</i>                                                                | jìng lì jǔ                                      |
|  net work<br><i>/net wɜːk/</i>                                                                  | jìng gōng                                       |
|  Newton's first law<br><i>/'njuːtnz fɜːst lɔː/</i>                                              | niú dùn dì yí dìng lǚ                           |
| Newton's first law in ro-<br>tational form                                                                                                                                         | zhuǎn dòng xíng shì de niú<br>dùn dì yí dìng lǚ |
|  Newton's law of<br>gravitation<br><i>/'njuːtnz lɔː ɒv ,ɡrævɪ'teɪʃn/</i>                        | wàn yǒu yǐn lì dìng lǚ                          |
|  Newton's law of<br>universal gravitation<br><i>/'njuːtnz lɔː ɒv ,juːnɪ'vɜːsl ,ɡrævɪ'teɪʃn/</i> | wàn yǒu yǐn lì dìng lǚ                          |
|  Newton's second law<br><i>/'njuːtnz 'sekənd lɔː/</i>                                           | niú dùn dì èr dìng lǚ                           |
|  Newton's second law for<br>rotation<br><i>/'njuːtnz 'sekənd lɔː fɔː rəʊ'teɪʃn/</i>             | zhuǎn dòng de niú dùn dì èr<br>dìng lǚ          |
|  Newton's third law<br><i>/'njuːtnz θɜːd lɔː/</i>                                               | niú dùn dì sān dìng lǚ                          |
| non-conservative force                                                                                                                                                             | fēi bǎo shǒu lì                                 |
|  nonconservative forces<br><i>/ˌnɒŋkən'sɜːvətɪv 'fɔːsɪz/</i>                                  | fēi bǎo shǒu lì                                 |
|  normal force<br><i>/'nɔːml fɔːs/</i>                                                         | fǎ xiàng lì                                     |
| orbital speed<br><i>/'ɔːbɪtl spiːd/</i>                                                                                                                                            | guǐ dào sù dù                                   |
| parabola<br><i>/pə'ræbələ/</i>                                                                                                                                                     | pāo wù xiàn                                     |
|  parallel-axis theorem<br><i>/'pærəlel 'æksɪs 'θɪərəm/</i>                                    | píng xíng zhóu dìng lǐ                          |
|  perfectly inelastic<br>collision<br><i>/'pɜːfektli ɪn'læstɪk kə'lɪʒn/</i>                    | wán quán fēi tán xíng pèng<br>zhuàng            |

| English                                                                                                                             | Pinyin              |
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|  period<br><i>/ˈpiəriəd/</i>                       | zhōu qī             |
|  periodic motion<br><i>/ˌpiəriˈvɒdɪk ˈməʊʃn/</i>   | zhōu qī yùn dòng    |
|  phase constant<br><i>/feɪz ˈkɒnstənt/</i>         | xiàng wèi cháng shù |
|  physical pendulum<br><i>/ˈfɪzɪkl ˈpendjʊləm/</i>  | wù lǐ bǎi           |
| • point particle<br><i>/pɔɪnt ˈpɑːtɪkl/</i>                                                                                         | zhì diǎn            |
| position<br><i>/pəˈzɪʃn/</i>                                                                                                        | wèi zhì             |
|  Potential energy<br><i>/pəˈtenʃl ˈenədʒi/</i>     | shì néng            |
| potential energy graph                                                                                                              | shì néng tú         |
|  power<br><i>/ˈpaʊə/</i>                           | gōng lǜ             |
| projectile<br><i>/prəˈdʒektail/</i>                                                                                                 | pāo tǐ              |
|  projectile motion<br><i>/prəˈdʒektail ˈməʊʃn/</i> | pāo tǐ yùn dòng     |
|  pulley<br><i>/ˈpʊli/</i>                          | huá lún             |
| radial<br><i>/ˈreɪdiəl/</i>                                                                                                         | jìng xiàng          |
| $\pi$ radians<br><i>/ˈreɪdiənz/</i>                                                                                                 | hú dù               |
| range<br><i>/reɪndʒ/</i>                                                                                                            | shè chéng           |
|  reference frame<br><i>/ˈrefrəns freɪm/</i>      | cān kǎo xì          |
| relative<br><i>/ˈrelətɪv/</i>                                                                                                       | xiāng duì           |
|  relative motion<br><i>/ˈrelətɪv ˈməʊʃn/</i>     | xiāng duì yùn dòng  |
|  resistive force<br><i>/rɪˈzɪstɪv fɔːs/</i>      | zǔ lì               |
|  resonance<br><i>/ˈrezənəns/</i>                 | gòng zhèn           |

| English                                                                                                                                                 | Pinyin                  |
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|  restoring force<br><i>/rɪˈstɔːrɪŋ fɔːs/</i>                         | huí fù lì               |
| resultant<br><i>/rɪˈzʌltənt/</i>                                                                                                                        | hé shǐ liàng            |
|  right-hand rule<br><i>/raɪt hænd ruːl/</i>                          | yòu shǒu dīng zé        |
|  rigid body<br><i>/ˈrɪdʒɪd ˈbɒdi/</i>                                | gāng tǐ                 |
| river                                                                                                                                                   | hé liú                  |
|  rolling without slipping<br><i>/ˈrɔːlɪŋ wɪˈðaʊt ˈslɪpɪŋ/</i>        | wú huá gǔn dòng         |
| ropes and pulleys                                                                                                                                       | shéng yǔ huá lún        |
|  rotational equilibrium<br><i>/rəʊˈteɪʃənəl ˌɪːkwɪˈlɪbrɪəm/</i>      | zhuǎn dòng píng héng    |
|  rotational inertia<br><i>/rəʊˈteɪʃənəl ɪˈnɜːʃə/</i>                 | zhuǎn dòng guàn liàng   |
|  rotational kinetic energy<br><i>/rəʊˈteɪʃənəl kɪˈnetɪk ˈenədʒi/</i> | zhuǎn dòng dòng néng    |
|  rotational power<br><i>/rəʊˈteɪʃənəl ˈpaʊə/</i>                     | zhuǎn dòng gōng lǜ      |
|  satellite<br><i>/ˈsætələɪt/</i>                                     | wèi xīng                |
| # scalar<br><i>/ˈskeɪlə/</i>                                                                                                                            | biāo liàng              |
|  separate the variables<br><i>/ˈseprət ðə ˈveəriəblz/</i>          | fēn lí biàn liàng       |
|  simple harmonic motion<br><i>/ˈsɪmpl haːˈmɒnɪk ˈməʊʃn/</i>        | jiǎn xié yùn dòng       |
|  simple pendulum<br><i>/ˈsɪmpl ˈpendjʊləm/</i>                     | dān bǎi                 |
|  slope<br><i>/sləʊp/</i>                                           | xié lǜ                  |
|  small-angle approximation<br><i>/smɔːl ˈæŋɡl əˌprɒksɪˈmeɪʃn/</i>  | xiǎo jiǎo dù jìn sì     |
| speed<br><i>/spiːd/</i>                                                                                                                                 | sù lǜ                   |
|  spring constant<br><i>/sprɪŋ ˈkɒnstənt/</i>                       | tán huáng jìn dù xì shù |

| English                                                                                                                                                         | Pinyin                    |
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|  stable equilibrium<br><small>/ˈsteɪbl̩ ˌiːkwɪˈlɪbrɪəm/</small>                | wěn dìng píng héng        |
|  static<br><small>/ˈstætɪk/</small>                                            | jìng mó cā                |
|  static equilibrium<br><small>/ˈstætɪk ˌiːkwɪˈlɪbrɪəm/</small>                 | jìng píng héng            |
|  static friction<br><small>/ˈstætɪk ˈfrɪkʃn/</small>                           | jìng mó cā                |
|  system<br><small>/ˈsɪstəm/</small>                                            | xì tǒng                   |
|  system of particles<br><small>/ˈsɪstəm ɒv ˈpɑːtɪklz/</small>                  | lì zì xì tǒng             |
|  tangential<br><small>/tænˈdʒenʃl/</small>                                     | qiè xiàng                 |
|  tangential acceleration<br><small>/tænˈdʒenʃl əkˌsələˈreɪʃn/</small>          | qiè xiàng jiā sù dù       |
|  tension<br><small>/ˈtenʃn/</small>                                            | zhāng lì                  |
|  terminal velocity<br><small>/ˈtɜːmɪnəl vəˈlɒsɪti/</small>                     | zhōng jí sù dù            |
|  thermal energy<br><small>/ˈθɜːml̩ ˈenədʒi/</small>                            | rè néng                   |
|  time of flight<br><small></small>                                             | fēi xíng shí jiān         |
|  torque<br><small>/tɔːk/</small>                                             | lì jǔ                     |
|  torsion pendulum<br><small>/ˈtɔːʃn ˈpendʒələm/</small>                      | niǔ bǎi                   |
|  total kinetic energy<br><small></small>                                     | zǒng dòng néng            |
|  total mechanical energy<br><small>/ˈtəʊtl̩ mɪˈkænɪkl̩ ˈenədʒi/</small>      | zǒng jī xiè néng          |
|  trajectory<br><small>/trəˈdʒektəri/</small>                                 | guǐ jì                    |
|  translational equilibrium<br><small>/trænˈsleɪʃənl̩ ˌiːkwɪˈlɪbrɪəm/</small> | píng dòng píng héng       |
|  turning points<br><small>/ˈtɜːnɪŋ poɪnts/</small>                           | zhuǎn zhé diǎn            |
|  uniform circular motion<br><small>/ˈjuːnɪfɔːm ˈsɜːkjələ ˈməʊʃn/</small>     | yún sù yuán zhōu yùn dòng |

| English                                                                                                                                                | Pinyin                |
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|  unit vector<br><small>/ˈjuːnɪt ˈvektə/</small>                     | dān wèi shǐ liàng     |
|  unstable equilibrium<br><small>/ʌnˈsteɪbl̩ ˌiːkwɪˈlɪbrɪəm/</small> | bù wěn dìng píng héng |
|  vector<br><small>/ˈvektə/</small>                                  | shǐ liàng             |
|  vector product<br><small>/ˈvektə ˈprɒdʌkt/</small>                 | shǐ liàng jī          |
|  velocity<br><small>/vəˈlɒsɪti/</small>                             | sù dù                 |
|  watts<br><small>/wɒts/</small>                                     | wǎ tè                 |
|  weight<br><small>/weɪt/</small>                                    | zhòng liàng           |
|  work<br><small>/wɜːk/</small>                                      | gōng                  |
|  work-energy theorem<br><small>/wɜːk ˈenədʒi ˈθɪərəm/</small>       | gōng néng dìng lǐ     |
|  work-energy theorem<br><small>/wɜːk ˈenədʒi ˈθɪərəm/</small>       | dòng néng dìng lǐ     |