**CAREER AND TECHNICAL EDUCATION (CTE)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prereq</th>
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</thead>
<tbody>
<tr>
<td>CTE 130</td>
<td>Introduction to Electricity and Electronics</td>
<td>3</td>
<td>This introduction to electricity and electronics includes properties of resistors, capacitors, and inductors in electrical circuits; basics of power distribution systems and house wiring; and the use of meters and oscilloscopes in lab. Three 1-hr lec and one 2-hr lab a wk.</td>
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<tr>
<td>CTE 200</td>
<td>Seminar</td>
<td>Credit arranged</td>
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<tr>
<td>CTE 203</td>
<td>Workshop</td>
<td>Credit arranged</td>
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<tr>
<td>CTE 204</td>
<td>Special Topics</td>
<td>Credit arranged</td>
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<tr>
<td>CTE 298</td>
<td>Internship</td>
<td>Credit arranged</td>
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<tr>
<td>CTE 299</td>
<td>Directed Study</td>
<td>Credit arranged</td>
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<tr>
<td>CTE 306</td>
<td>Preservice for New Career and Technical Teachers</td>
<td>3</td>
<td>Fundamental skills necessary for new teachers in secondary and postsecondary schools to be successful in meeting students.</td>
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<tr>
<td>CTE 310</td>
<td>Lab Safety, Mgmt, &amp; Liability</td>
<td>3</td>
<td>Overview of operations, use, and maintenance of laboratory tools and equipment, laboratory management and liability concerns.</td>
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<tr>
<td>CTE 351</td>
<td>Principles and Philosophy of Career and Technical Education</td>
<td>3</td>
<td>Joint-listed with CTE 551 Overview and interpretation of history, aims, and purposes of public education and professional-technical education; issues and programs comprising professional-technical education in Idaho and in the nation. Additional projects/assignments required for graduate credit.</td>
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<tr>
<td>CTE 353</td>
<td>Manufacturing Systems</td>
<td>3</td>
<td>In-depth examination and implementation of manufacturing theory and processes including research and development, product planning and controlling. Topics, such as Lean Manufacturing, Kanban, relating to manufacturing facilities and management of manufacturing processes will be discussed, studied and implemented in the manufacture of a designed product in quantity.</td>
<td>CTE 267 and CTE 310.</td>
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<td>CTE 354</td>
<td>Construction Technology</td>
<td>3</td>
<td>Teaching techniques and methods of instruction for a systems approach to construction technology including residential, commercial, and civil. Recommended Preparation: CTE 310.</td>
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<td>CTE 370</td>
<td>Transportation &amp; Engineering Technologies</td>
<td>4</td>
<td>Students will explore various forms of renewable energy and transportation systems. They will also work in teams to propose solutions to power, energy and transportation issues. Students will research, design, build and evaluate their potential solutions in a hands-on laboratory environment. Recommended Preparation: MATH 143 and PHYS 111.</td>
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<td>CTE 398</td>
<td>Internship</td>
<td>Credit arranged</td>
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<td>CTE 400</td>
<td>Seminar</td>
<td>Credit arranged</td>
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<tr>
<td>CTE 403</td>
<td>Workshop</td>
<td>Credit arranged. Graded P/F.</td>
<td>Prereq: Permission.</td>
<td>Permission.</td>
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<td>CTE 404</td>
<td>Special Topics</td>
<td>Credit arranged</td>
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<tr>
<td>CTE 405</td>
<td>Professional Development</td>
<td>Credit arranged</td>
<td>Joint-listed with CTE 505 Credits earned in this course will not be accepted toward grad degree programs. Professional development and enrichment. Additional projects/assignments required for graduate credit.</td>
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<td>CTE 410</td>
<td>Technology &amp; Society             3 credits</td>
<td>In-depth examination and implementation of the relationship between technology and social change; previous course work in technology is not essential.</td>
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<td>CTE 413</td>
<td>Retail Merchandising for Marketing Education</td>
<td>3</td>
<td>Designed for marketing teacher preparation. Contemporary information and activities that address retail merchandising, including standards and curriculum resources for secondary and two-year technical college courses. Curriculum standards, educational resources, careers, the role of retail, and the operation of a retail business that includes market analysis, store layout, and merchandising. Recommended Preparation: MKTG 321.</td>
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<td>CTE 415</td>
<td>Productivity Software in Business Education</td>
<td>3</td>
<td>Advanced computer applications course designed primarily for business teacher education students; includes extensive hands-on experience using word processing, spreadsheet, and database programs used in both industry and business education programs; addresses methodology, curriculum development, and classroom management techniques.</td>
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<tr>
<td>CTE 416</td>
<td>Website Design and Development</td>
<td>3</td>
<td>Basics of html, advanced use of web development applications for purposes of creating effective websites that incorporate accepted design principles, taught in the context of Professional-Technical Education.</td>
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<td>CTE 417</td>
<td>Teaching &amp; Learning through STEM Integration</td>
<td>3</td>
<td>Students examine a variety of approaches to teaching and assessment methods for technology educators at the secondary level. Instructional strategies best suited to learning technical skills, related academics, problem solving, and hands-on activities will be explored through the lens of Science, Technology, Engineering, and Mathematics (STEM) integration.</td>
<td>EDCI 201 , EDCI 301, and CTE 310.</td>
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<tr>
<td>CTE 418</td>
<td>Teaching Economics and Personal Finance</td>
<td>3</td>
<td>In-depth examination and implementation of methods and materials for teaching economics and personal finance. Recommended Preparation: ECON 201 or Equivalent.</td>
<td>ECON 201 or Equivalent.</td>
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CTE 419 Database Applications and Information Management
3 credits
Teaching and training strategies for database applications. Includes database management principles and methods of information retrieval, processing, storage and distribution. Advanced project reqd for graduate credit.

CTE 420 Assessment in Contextual Learning Environments
3 credits
Methods of assessing in contextual and hands on learning environments. Includes authentic assessment of project based learning.

CTE 426 Occupational Analysis and Curriculum Development
3 credits
Instructional design systems and curriculum development as a systematic method of designing, carrying out, and evaluating the total process of teaching and learning; based on research in human learning and communication, employing a combination of human and non-human resources to bring about effective instruction. Focus on secondary and post-secondary professional/technical education.

CTE 430 Leadership and Student Organizations
2 credits
Development of leadership skills; instruction in planning, implementation and supervision of professional-technical student organizations; and participation in regional leadership conferences.

CTE 431 Supervising CTE Career and Technical Student Organizations
1-3 credits, max 3
Supervising CTE CTSOs involves active participation in career and technical student organization (CTSOs). Students assist in the administration and supervision of secondary regional and/or state CTSO conferences, and involve themselves with content area post-secondary CTSO competitive events program. Students are responsible for arranging and financing travel to appropriate CTSO events.

CTE 447 Diverse Populations and Individual Differences
2-3 credits
Examines the impact of individual differences on teaching and learning.

CTE 460 Desktop Publishing
3 credits
Advanced desktop publication techniques, concepts, and applications through use of computer technology; planning, layout, and design of publications are highlighted. Recommended Preparation: CTE 415.

CTE 462 Communication Technology
3 credits
Investigation and laboratory activities associated with of a variety of communication technologies, including interpersonal, human to machine and machine to machine, through contemporary devices and materials. Recommended Preparation: CTE 415.

CTE 464 Career Guidance and Transitioning to Work
3 credits
Designed for career development counselors and facilitators; establishment of the three pillars of career guidance and how to implement the steps for developing a comprehensive individualized career plan.

CTE 470 Technical Competence
1-32 credits, max 32
Technical competence is gained from occupational credentials or passing of competency exams related to the bachelor of science degree in PTE education or technology. Grades for successful completion of CTE 470 will be transcripted as P (pass) normally during the student’s last semester and completion of all degree requirements.

CTE 472 Teaching and Learning in Organizations
3 credits
Students examine research-based approaches to facilitate learning outcomes for occupational educators in post-secondary, secondary and private sector contexts; Instructional strategies and materials will be considered and developed to facilitate learning in technical skills, related applied academics, and workplace readiness knowledge and dispositions.

CTE 481 Computer-Integrated and Robotics Manufacturing Technologies
3 credits
In-depth examination and implementation of advanced computer aided drafting, 3D solids modeling, computer numerical control, basic and advanced toolpath generation, virtual machining environments, and robotics applications. Enrollment per section limited to lab stations available.
Prereq: CTE 267 or ENGR 105; and CTE 350, CTE 352, and ASM 202.

CTE 484 (s) Internship in Career and Technical Education Teaching
3-14 credits, max 28
Guided observation, supervised instruction, and comprehensive team and independent teaching in school settings.
Prereq: Admission to teacher education program
Coreq: EDCI 401.

CTE 492 Business and Marketing Education Methods
3 credits
Teaching pedagogy, instructional materials and student evaluation strategies in Business and Marketing Education.
Prereq: Permission.

CTE 494 Senior Project
3 credits
In the last year of study, students select an individual design project related to their area of specialization within technology education. Some students may have the option of joining a Senior Design Team in the College of Engineering. Project must be approved by instructor.

CTE 495 Administrative Technology Management and Procedures
3 credits

CTE 498 (s) Internship
Credit arranged.

CTE 499 (s) Directed Study
Credit arranged.

CTE 500 Master's Res & Thesis
Credit arranged.

CTE 501 (s) Seminar
Credit arranged.

CTE 502 (s) Directed Study
Credit arranged.

CTE 503 (s) Workshop
Credit arranged.

CTE 504 (s) Special Topics
Credit arranged.
CTE 505 (s) Professional Development
Credit arranged
Joint-listed with CTE 405
Credits earned in this course will not be accepted toward grad degree programs. Professional development and enrichment. Additional projects/assignments required for graduate credit.

CTE 519 Database Applications and Information Management
3 credits
Joint-listed with CTE 419
Teaching and training strategies for database applications. Includes database management principles and methods of information retrieval, processing, storage and distribution. Advanced project reqd for graduate credit.

CTE 544 Idaho Leadership Institute
1-12 credits, max 12
Institute for the preparation of the next generation of Idaho's leaders in professional-technical education.
Prereq: Accepted into the Idaho Leadership Institute.

CTE 551 Principles and Philosophy of Career and Technical Education
3 credits
Joint-listed with CTE 351
Overview and interpretation of history, aims, and purposes of public education and professional-technical education; issues and programs comprising professional-technical education in Idaho and in the nation. Additional projects/assignments required for graduate credit.

CTE 597 (s) Practicum
Credit arranged
Application of theories and techniques; supervised field experiences in selected settings. Graded P/F.
Prereq: Permission.

CTE 598 (s) Internship
Credit arranged
Supervised experience in teacher education, administration, supervision, or ancillary services in professional-technical education. Graded P/F.
Prereq: Permission.

CTE 599 (s) Non-thesis Master's Research
Credit arranged
Research not directly related to a thesis or dissertation.
Prereq: Permission.

CTE 600 Doctoral Research & Dissertation
Credit arranged.