

Licensure Area	Degrees	Content Area Coursework	Occupational Experience Examples
Agriculture/Agribusiness and Renewable Natural Resources	Bachelor's degree or higher in: Agriculture/Agribusiness, Agricultural Economics, Agronomy/Crop Science, Animal Science, Horticulture, Soil Science, Forestry/Land Management, Fisheries/Wildlife Management, Natural Resource Management	Farm Management, Farm Marketing Principles, Agricultural Finance, Soil, Water or Wildlife Management or Conservation, Handling and Certification for Chemicals and Poisons, Occupational Hazards, Laboratory Management/Safety	Farm/Ranch Manager, Agriculture Technician, Herdsman/Livestock Specialist, Harvest Coordinator, Agronomist, Plant Breeder, Soil Scientist, Pest Control Advisor, Grain Elevator Manager, Cooperative Extension Agent
Biology	Bachelor's degree or higher in: Biology, Biochemistry, Microbiology, Biotechnology, Biomedical Science, Neuroscience, Physiology, Ecology, Marine Biology, Zoology, Botany, Epidemiology	Biology, Botany, Cell Biology, Biochemistry, Ecology, Evolution, Genetics, Microbiology, Marine/Estuarine Biology, Zoology, Physiology, Chemistry, Physics, Earth/Space Science, Mathematics, Kinesiology, Paleobiology, Plant Science, Animal Science, Anatomy	Research Assistant, Lab Technician, Field Researcher, Marine Biologist, Clinical Research Coordinator, Pharmaceutical Sales
Business Education	Bachelor's degree or higher in: Business Education, Business, Accounting, Finance, Economics, Business Analytics, Data Science, Business Administration, Human Resources Management, Operations Management, Entrepreneurship, Public Relations, International Business, Supply Chain Management, Management Information Systems	Accounting, Business Law, Micro/Macroeconomics, Principles of Business Organization, Office Procedures and Systems, Business Communications, Microcomputers, Business Computer Applications, Typewriting, Keyboarding, Business Electives	Business Teacher, CTSIO Advisor School Based Enterprise, Career and Technical Education Coordinator, Corporate Trainer, Instructional Designer, L&D Program Manager, Instructional Designer, Sales Trainer, Business Professor, Career Services Advisor, Admissions Counselor, Educational Consultant, Curriculum Developer, Workforce Development Specialist
Chemistry	Bachelor's degree or higher in: Chemistry, Material Science, Environmental Science, Organic/Inorganic Chemistry, Pharmacology, Chemical Engineering, Geochemistry, Forensic Science, Chemical Patent Law, Biochemistry,	General Chemistry, Organic Chemistry, Analytical Chemistry/Quantitative Analysis, Physical Chemistry, Inorganic Chemistry, Biochemistry, Biology, Earth/Space Science, Instrumental Analysis, Calculus,	Medicinal Chemistry Technician, Formulation Scientist, Process Development Chemist, Toxicology Assistant, Environmental Field Technician, Chemical Plant Operator, Patent Agent (Chemistry), Regulatory

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	Analytical Chemistry, Physical Chemistry, Toxicology, Computational Chemistry	Differential Equations, Statistics, Physics, Data Analysis, Advanced Synthesis, Environmental Chemistry, Polymer Chemistry, Computational Chemistry, Medicinal Chemistry	Affairs Specialist, Food Scientist, Petroleum Chemist
Computer Science	Bachelor's degree or higher in: Computer Science, Computer Engineering (CE), Software Engineering (SE), Data Science, Data Analytics, Cybersecurity, Information Assurance, Artificial Intelligence (AI) & Machine Learning, Game Design & Development, Information Technology (IT), Management Information Systems (MIS), Computer Information Systems (CIS), Computational Linguistics, Human-Computer Interaction (HCI), Bioinformatics/Computational Biology	Computer Science, Computer Engineering, Engineering, APP Development, Computer Forensics, Computer System Architecture, Cyber Ethics, Cybersecurity, Data Science (including applications of Data in Education), Database Computer Science	Software Engineer/Developer, Web Developer, Database Administrator, Cloud Architect, Network Architect/Admin, Cybersecurity Analyst, Technical Lead/Scrum Master, UX/UI Designer
Earth/Space Science	Bachelor's degree or higher in: Earth/Space Science, Geology, Hydrology & Oceanography, Atmospheric Sciences & Meteorology, Environmental Geoscience, Geophysics, Astronomy, Astrophysics, Planetary Science, Aerospace Engineering, Geospatial Technology / GIS, Cosmology, Astrobiology	Geology (Lithosphere), Meteorology (Atmosphere), Survey course, Oceanography (Hydrosphere), Astronomy (Exosphere), Physical Geology, Earth Materials, Structural Geology, Sedimentology/Stratigraphy, Geomorphology, Planetary Science, Observational Astronomy, Climatology, Astrophysics, Principles of Meteorology, Hydrology, Biology, Geochemistry/Geophysics, Calculus, Statistics, Physics, Chemistry	Geotechnical Technician, Mining or Exploration Geologist, Seismology Lab Assistant, Operational Meteorologist, Hydrogeologist, Climate Data Analyst, Observatory Technician, Planetarium Director/Specialist, Satellite Data Technician, Natural Resource Manager, Environmental Consultant
Economics	Bachelor's degree or higher in: Economics, Finance, Statistics/Data Science, Mathematics, Actuarial Science, Accounting, Business	Microeconomics, Macroeconomics, Statistics for Economics, Money and Banking, Game Theory, Public Economics (or Public Finance),	Banking & Personal Finance, Investment Analyst, Economic Researcher, Financial Analyst, Actuary, Investment Banker/Advisor, Policy Analyst, Tax/Revenue

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	Administration, Supply Chain Management, Political Science, Public Policy, International Relations, Philosophy, Politics, and Economics (PPE)	International Trade, International Finance, Development Economics, Labor Economics, Health Economics, Environmental Economics, Behavioral Economics, Mathematical Economics, Forecasting and Time Series Analysis, Industrial Organization	Officer, Economic Development Officer, Central Bank/Federal Reserve Employee
English	Bachelor's degree or higher in: English, Communications, Journalism, Professional Writing, Technical Writing, Composition & Rhetoric, Creative Writing, Comparative Literature, Linguistics, English Education	English, Linguistics, Literature, Survey of Literature, Genre Studies, Language Composition, Writing and Culture, English/Language Arts, Reading, Creative Writing, Rhetoric, Communication, Teaching English to speakers of other languages (TESOL), Literacy Studies, Journalism, Nature and History of Language, Traditional Grammar, Modern Grammar, Syntax, Written Composition, Sociolinguistics	Author, Editor, Developmental Editor, Acquisitions Editor, Copy Editor, Proofreader, Content Strategist, Copywriter, Journalist, Brand Journalist, Writer, Technical Writer, Grant Writer, UX Writer, Communications Coordinator, Communications Manager, Speechwriter, Public Speaker
Environmental Science	Bachelor's degree or higher in: Environmental Science, Environmental Law & Policy, Environmental Economics, Sustainability Studies, Environmental Engineering, Environmental Design/Architecture, Renewable Energy Engineering, Ecology & Conservation Biology, Marine Biology/Oceanography, Geoscience/Geology, Forestry & Wildlife Management, Horticulture/Agricultural Science	Ecology, Intro to Environmental Science, Environmental Chemistry, Environmental Chemistry, Biology, Chemistry, Physics, Environmental Statistics, Remote Sensing, Field Methods, Environmental Law, Environmental Policy, Natural Resource Management, Environmental Ethics, Plant Ecology, General Microbiology, Sedimentology, Physical Geology, Population Biology, Conservation Biology, Water Pollution, Mineralogy, Geomorphology, Biogeochemistry, Climatic Change, Microbial Ecology	Environmental Compliance Officer, Environmental Health & Safety (EHS) Specialist, Water Quality Technician, Air Quality Inspector, Ecological Surveyor, Restoration Ecologist, Sustainability Coordinator, Environmental Remediation Specialist, GIS Specialist, Environmental Toxicologist, Climate Data Analyst

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Family and Consumer Sciences	Bachelor's degree or higher in: Family and Consumer Sciences, Child and Family Studies, Nutrition Science, Public Health, Food Science, Consumer Economics, Human Ecology, Marriage and Family Therapy	Human Development, Economics, Nutrition, Design, Textiles, Culinary Arts, Biology, Health, Apparel/Textiles, Food Safety, Social Work, Fashion, Production, Lifespan Development, Consumer Affairs, Merchandising	Interior Design, Chef or Sous Chef, Social Work, Consumer Advocate, Financial Counselor/Planner, Childcare, Dietician, Costume Designer, Food Safety Inspector
Geography	Bachelor's degree or higher in: Geography, Physical Geography, Human Geography, Geographic Information Systems, Geology, Environmental Science, Meteorology & Atmospheric Science, Oceanography	Physical and/or Human Geography, Economic Geography, Historical Geography, Cartography, Climatology, Political and Industrial Geography, Computer Mapping and Graphics, Regional Planning, Fluvial Geomorphology	GIS Analyst/Specialist, Remote Sensing Scientist, Cartographer, Urban/Regional Planner, Transportation Planner, Economic Development Specialist, Environmental Consultant, Conservation Officer, Hydrologist, Demographer, International Development Officer, Market Research Analyst, Geography Teacher/Professor, Climatologist
History	Bachelor's degree or higher in: History, Art History, Philosophy, Religious Studies, Classics, Political Science, International Relations, Sociology, Archaeology, Anthropology, Museum Studies, Archival Science	History Survey courses, U.S. History, European History, Medieval History, Civil War/ Reconstruction, History of major nations, Women in History, World History, The Medieval World, Civilization (any country/continent), The American Jewish Experience, Business in American Culture, Civil Discourse, Famous Trials in American History, Historical Research Methods, Modern India, History of Medicine, The Dynamics of New Religious Movements, Slavery in America, Islamic Reformism, History of Finance, History of Labor, Immigration and Ethnicity in the US, Reform Movements	Historian, Museum Curator, Museum Technician, Museum Exhibit Design, Archivist, Archival Management, Historic Preservation, Historic Site Manager, Intelligence Analysis, Policy Research, Genealogy, Forensics, Documentary Production, Technical Writing, Editing, Historical Fiction Consultant, Law, Paralegal, Legal Researcher, Records Management, Risk Assessment, Genealogist, Documentary Producer, Cultural Resource Manager, Intelligence Analyst, Legislative Aide, Diplomat, Policy Analyst, Historical Society Manager, Foundation officer, Archaeologist, Anthropologist
Marketing	Bachelor's degree or higher in: Marketing, Public Relations, Advertising, Strategic Communications, Data Science/Business	Marketing, Consumer Behavior, Sales Management, Finance, Pricing, Public Relations,	Marketing Specialist, Brand Manager, Social Media Management, Art Director, Marketing Operations

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	Analytics, Statistics, Economics, Consumer Psychology, Psychology, Sociology, Consumer Behavior, Business Administration, Digital Media, Graphic Design, Management Information Systems, Digital Marketing, Multimedia	Product Management, Sales Promotion, Customer Service, Logistical Strategies, Economics	Manager, Copywriting, Content Writing, Content Strategy, Content Analytics, Content Management Systems, Video Production/Scripting, Search Engine Optimization, Digital Marketing, Email Marketing, Project Management
Mathematics	Bachelor's degree or higher in: Mathematics, Statistics, Actuarial Science, Data Science, Applied Math/Physics, Engineering, Computer Science, Economics, Mathematical Economics, Quantitative Finance, Mathematics Education	Mathematics, Probability, Statistics, Calculus, Geometry, Algebra, Linear Algebra, Number Theory, Modern Abstract Algebra, Computer Science, Accounting, Economics, Physics, Business Analytics, Computer & Information Science (data courses only), Computer Information Systems (data courses only), STEM, Finance, Business Math, Education Math, Data Science, Engineering	Mathematician, Actuary, Statistician, Data Science, Data Analyst, Predictive Analytics, Algorithmic Development, Statistical Modeling, Optimization, Risk Assessment, Pension Modeling, Cryptography, Cyber Security, Encryption Protocols, Blockchain Development, Quantitative Finance, Derivative Pricing, Portfolio Optimization, Operations Research Analyst, Linear Programming, Queuing Theory, Tech/AI, Logistics, Biotech
Physical Science	Bachelor's degree or higher in: Physical Science, Physics, Chemistry, Astronomy & Astrophysics, Earth Sciences (Geosciences), Geology, Oceanography, Meteorology/Atmospheric Science	Physical Science, Physics (see "Physics" licensure area), Chemistry (see "Chemistry" licensure area), Chemical Engineering	Engineering (All Disciplines), Laboratory & Chemical Sciences, Energy & Utilities, Applied Healthcare Technology, Chemists & Materials Scientists, Physicists & Astronomers, Geologists & Geoscientists, Meteorologists, Forensic Science Technicians, Environmental Scientists, Hydrologists
Physics	Bachelor's degree or higher in: Physics, Theoretical Physics, Astrophysics/Astronomy, Biophysics, Chemical Physics, Mechanical Engineering, Electrical Engineering, Aerospace Engineering, Nuclear Engineering, Mathematical Physics, Computational Science	Physics, Geophysics, Astronomy, Mechanics, Electricity & Magnetism, Optics, Atomic, Nuclear, or Modern Physics, Thermodynamics/Heat, Radiation, Quantum mechanics, Astrophysics, Optics, Solid State Physics, Particle Physics, General Relativity, Computational Physics, Experimental Physics	Engineering (All Disciplines), Electricians, Machinists and Mechanics, Construction, Medical Imaging, Optics & Photonics, Machinist/Technician

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Political Science	Bachelor's degree or higher in: Political Science, Public Policy, Public Administration, Criminal Justice, International Relations (IR), Global Studies, Regional Studies, Sociology, Economics, Philosophy, Legal Studies/Pre-Law, Communications/Journalism, Political Communication	American Government Politics, Comparative Politics, International Relations (IR), Political Theory/Philosophy, Political Science Research Methods, Scope and Methods, Political Statistics / Data Analysis, Legal Philosophy, Civil Liberties, Diplomatic, History, Urban Politics, Bureaucracy and Management, Polling and Public Opinion, Macroeconomics, Sociology, Ethics	Legislative Assistant/Aide, Campaign Manager, Public Administrator/City Manager, Policy Analyst, Lobbyist/Government Affairs Specialist, Political Consultant, Attorney/Lawyer, Paralegal/Legal Assistant, Arbitrator/Mediator, Foreign Service Officer (Diplomat), Intelligence Analyst, International Program Manager, Urban Planner, Market Research Analyst, Corporate Public Policy Manager
Social Studies	Bachelor's degree or higher in: Social Studies, History, Political Science, Geography, Economics, Sociology, Anthropology, Criminal Justice, International Relations, Urban Planning, Sociology, Pre-Law	History, Government, Geography, Economics, Political Science, Civics, Anthropology, Intro Psychology, Intro Sociology, Criminal Justice, International/Global Security and Relations	Government/Public Policy, Historian, Archivist, Political Scientist, Policy Analyst, Intelligence Analyst, Urban/regional Planner, Legislative Aide, Attorney/Lawyer, Paralegal
Speech Communication	Bachelor's degree or higher in: Speech Communication, Human Resources, Public Relations, Journalism, Marketing, Theater Arts	Intro Speech, Public Speaking, Interpersonal Communication, Oral Interpretation, Communication Theory, Argumentation/Debate, Rhetorical Criticism, Ethics in Communication	Public Relations, Communication Manager, Human Resources Specialist, Corporate Trainer, Broadcast Journalist/News Anchor, Podcast Host/Producer, Social Media Manager, Speechwriter, Lobbyist, Campaign Director, Legal Assistant/Paralegal, Public Information Officer
Technology Education	Bachelor's degree or higher in: Technology Education, Industrial Technology, Engineering Technology, Information Technology, Construction Management, Communication Technology, Computer Engineering, Computer Science	Engineering, Electronic Systems, Energy, Power, Transportation, Information Communication, Manufacturing Systems, Construction Technology, Robotics, Graphic Design, Multimedia Communication,	Engineer, Industrial Designer, Architect, Machinist, Electrician, Carpenter, General Contractor, Auto or Aviation Tech, Graphic Designer, Product Developer, HVAC Tech, IT Specialist