MISSOURI DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION
OFFICE OF EDUCATOR QUALITY – EDUCATOR PREPARATION

TECHNOLOGY AND ENGINEERING 9-12 – POST-BACCALAUREATE

EDUCATOR PREPARATION PROGRAM NAME	EDUCATOR PREPARATION PROGRAM CODE
UNIVERSITY OF CENTRAL MISSOURI	121121

INSTRUCTIONS

Please complete Educator Preparation Program (EPP) Name & EPP Code above. The EPP Code may be located at
https://dese.mo.gov/sites/default/files/EPP-Code-Name.pdf

Certification Requirements:
- Course Number – List the course number(s) for the course(s) or groups of competencies that align with the specific section of the requirements. It is possible to have more than one course or group listed.
- Course Title – List the course title(s) for the course(s) or groups of competencies that align with the specific section of the requirements. It is possible to have more than one course or group listed.
- Semester Hours – List the number of semester hours for each specific section. It is possible to use decimals (to the nearest tenth) to indicate partial use of a course to meet a requirement. The total number of semester hours must meet or exceed the minimum required number of semester hours.

Email the completed cover sheet, curriculum matrix, and advising/program information to DESE.MoSPETransition@dese.mo.gov on or before the date established in the Transition Plan.

QUESTIONS: Contact Educator Preparation, 573/751-1668 or DESE.MoSPETransition@dese.mo.gov

A.   Professional Requirements (Minimum of 26 semester hours)

1.   Content Planning and Delivery

		Course Number	Course Title	Semester Hours
a.	Curriculum and Instructional Planning	EDFL 2100￼CTE 4145￼EDFL 5340	Introduction to the Teaching Profession￼Curriculum Construction in CTE￼Contemporary Instruction: Theory & Practice	0.5 OR￼3.0 OR￼1.0
b.	Instructional Strategies and Techniques in Content Area Specialty	CTE 4160	Methods of Teaching Career and Technical Ed	3.0
c.	Assessment, Student Data, and Data-Based Decision-Making	EDFL 2100￼EDFL 4974￼CTE 4974￼EDFL 4300￼EDFL 5300￼CTE 4165	Introduction to the Teaching Profession￼Content Specific Assessment￼Education Evaluation and Strategies￼Educational Measurement & Evaluation￼Advanced Assessment & Evaluation￼Performance Assessment in Career and Technical Ed	1.0 AND￼1.0 OR￼2.0￼2.0 OR￼3.0 OR￼3.0
d.	Strategies for Content Literacy	EDFL 4210￼EDFL 5208	Introduction to Content Area Literacy￼Content Area Literacy	0.0 OR￼0.0
e.	Critical Thinking and Problem Solving	EDFL 2250￼￼EDFL 4970￼EDFL 5340	Intro to ELL and Culturally Responsive Pedagogy￼￼Science Learning and Literacy￼Contemporary Instruction Theory & Practice	1.0￼￼1.0 OR￼1.0
f.	English Language Learning	EDFL 2250	Intro to ELL & Culturally Responsive Pedagogy	1.0

2.   Individual Student Needs

		Course Number	Course Title	Semester Hours
a.	Psychological Development of the Child and Adolescent	PSY 2220￼PSY 3220￼CFD 1220￼COUN 5310	Child & Adolescent Psychology OR￼Life-Span Development OR￼Child & Adolescent Development OR￼Development Across the Lifespan	3.0
b.	Psychology/Education of the Exceptional Child	EDSP 2100￼EDSP 5200	Education of the Exceptional Child￼Advanced Education of the Exceptional Child	1.5 OR￼1.0
c.	Differentiated Learning	EDSP 2100￼EDSP 5200￼￼EDFL 2250	Education of the Exceptional Child￼Advanced Education of the Exceptional Child￼￼Intro to ELL & Culturally Responsive Pedagogy	1.0 OR￼0.5￼OR￼0.5
d.	Classroom Management	EDFL 4970￼EDFL 4973￼CTE 4973￼EDFL 3500￼EDFL 5330	Secondary Teaching & Behavioral Management￼Classroom Management in Content Area￼CTE Classroom and Lab Management Techniques￼Secondary Teaching and Behavior Mgmt￼Classroom Discipline and Motivation	1.5 AND￼1.0 OR￼1.0 OR￼2.0 OR￼3.0
e.	Cultural Diversity	EDFL 2250	Intro to ELL & Culturally Responsive Pedagogy	0.5
f.	Educational Psychology	EDFL 2240￼EDFL 5200	Educational Psychology￼Advanced Educational Psychology	3.0 OR￼3.0

3. Schools and the Teaching Profession	Course Number	Course Title	Semester Hours
a. Consultation and Collaboration	EDFL 2100	Introduction to the Teaching Profession	1.0 OR
	EDFL 5340	Contemporary Instruction Theory and Practice	1.0
b. Legal/Ethical Aspects of Teaching	EDFL 2100	Introduction to the Teaching Profession	0.5 OR
	EDSP 2100	Education of the Exceptional Child	0.5 OR
	EDSP 5200	Advanced Education of the Exceptional Child	1.5

4. Secondary Literacy (Minimum of six semester hours)	Course Number	Course Title	Semester Hours
a. Reading and Writing in the Content Area	EDFL 4210	Introduction to Content Area Literacy	1.0 AND
	EDFL 4212	Literacy in the Disciplines I	1.0 AND
	EDFL 4972	Literacy in the Discipline II	1.0
			OR
	EDFL 5208	Content Area Literacy	3.0
b. Instructional Interventions for Students with Reading Deficits	EDFL 4210	Introduction to Content Area Literacy	1.0 AND
	EDFL 4212	Literacy in the Disciplines I	1.0 AND
	EDFL 4972	Literacy in the Discipline II	1.0
			OR
	EDFL 5210	Assessment of Literacy Development	3.0
Professional Requirements - Total Semester Hours			**29**

B. Field and Clinical Experiences (Minimum of ten semester hours)

	Course Number	Course Title	Semester Hours
1. Early Field Experiences (Minimum of one semester hour with a minimum of 30 clock hours)	FLDX 2150	Introductory Field Experience OR	1.0 OR
	FLDX 3000	Field Experience I in the Content Area	1.0
2. Mid-Level Field Experiences (Minimum of one semester hour with a minimum of 45 clock hours)	FLDX 3550	Practicum in Secondary Instruction OR	1.0 OR
	FLDX 4970	Field Experience II in the Content Area	1.0
3. Culminating Clinical Experiences (Minimum of eight semester hours with a minimum of 12 weeks in one placement)	EDFL 5100	Internship AND	3.0 AND
	FLDX 4468	Student Teaching Secondary II OR	5.0 OR
	FLDX 4595	Student Teaching Secondary I	5.0
		OR	OR
	CTE 4022	Teaching/Administrative Internship AND	3.0 AND
	FLDX 4468	Student Teaching Secondary II OR	4.0 OR
	FLDX 4595	Student Teaching Secondary I	4.0
Field and Clinical Experiences - Total Semester Hours			**10**

C. Technology and Engineering Content Knowledge Area (Minimum of 36 semester hours)

	Course Number	Course Title	Semester Hours
1. Communication Technology (six semester hours)	CTE 2000	Technology & Society	3
	CTE 3060	Technical Writing	3
1. Energy and Power (six semester hours)	ATM 1010	Contemporary Power Systems	3
	ET 1020	General Electronics	3
2. Materials and Processes Technology (six semester hours)	ENGT 1510	Introduction to Manufacturing Processes	3
	ENGT 1120	Welding	3
3. Organization and Administration (six semester hours)	CMGT 1300	Introduction to Construction Management	3
	CTE 3116	Creative Thinking for a Better World	3
4. Electives (12 semester hours)		**Choose any 12 hours**	
	CTE 1300	Introduction to Engineering Design	3
	SOT 4570	Computer Graphics	1
	ATM 2110	Engine Theory and Maintenance	2
	ATM 2124	Automotive Braking Systems	3
	ATM 2130	Automotive Electrical Systems	4
	ATM 2132	Engine Performance I	4
	ATM 2140	Manual Drivelines	4
	ATM 2150	Mobile Heating, Ventilating, Air-Conditioning	4
	ATM 3010	Transportation Systems	3
	ATM 3110	Automotive Engine Overhaul	3
	ATM 3120	Steering and Suspension Systems	3
	ATM 3130	Engine Performance II	4
	ATM 3134	Advanced Powerplant Systems	4
	ATM 3140	Automatic Transmissions	4
	ATM 4025	Motorcycle Systems Maintenance	3
	ATM 4032	Hydraulics and Pneumatics	3
	ATM 4038	Advanced Hydraulics ATM Comprehensive	3
	ATM 4130	Vehicle Diagnostics	3
	ATM 4134	Advanced Vehicle Systems Intermodal	3
	ATM 4410	Surface Transportation	4
	AVIA 1020	Aeronautics	2

	CADD 1105	Basic AutoCAD	3
	CADD 1170	Intro to Computer-Aided Drafing	2
	CADD 1110	Fundamentals of Drafting Computer-Aided	3
	CADD 2140	Drafting and Design for Engineering Technology	3
	CADD 2150	Descriptive Geometry for Engineering Technology	3
	CADD 2160	Structural Drafting	3
	CADD 2171	Introduction to MicroStation	3
	CADD 3100	Junior Design/Drafting Seminar	.5
	CADD 3120	Machine Drafting	3
	CADD 3150	Civil Drafting	3
	CADD 3160	Residential Architectural Drawing	3
	CADD 3170	Computer Drafting Systems	3
	CADD 3175	Advanced MicroStation	3
	CADD 4150	Applied Civil Design/Drafting Commercial	3
	CADD 4162	Architectural Design/Drafting	3
	CADD 4171	Production Design/Drafting	3
	CADD 4172	MEP (Mechanical, Electrical & Plumbing) & Industrial Piping Design/Drafting	3
	CADD 4174	Machine Design Advanced 3D Analysis and Rapid Prototyping	3
	CADD 4175	Industrial Design	3
	CADD 4180		3
	CDM 3000	Introduction to Crisis and Disaster Management	3
	CIS 2605	Programming With Visual C#	3
	CIS 2615	Introduction to JAVA	3
	CIS 2665	Principles of Data Communications and Local Area Networking	3
	CIS 3650	Database Management Systems	3
	CIS 3660	Analysis and Design of Computer Information Systems	3
	CIS 3665	Data Communication Technologies	3
	CIS 3670	User Experience Design	3
	CIS 4625	Information Security Management	3
	CIS 4640	Web Application Development	3
	CIS 4645	Network and System Security	3
	CMGT 2020	Statics	3
	CMGT 2310	Construction Plans and Specifications	3
	CMGT 2340	Surveying and Construction Layout	3
	GE CMGT 3010	Applied Construction Practices	3
	CMGT 3020	Applied Strength of Materials	3
	CMGT 3320	Principles of Construction Management	3
	CMGT 3330	Building Codes and Code Administration	3
	CMGT 3350	Building Structures: Methods & Materials	3
	CMGT 3355	Construction Planning and Scheduling	3
	CMGT 4310	Construction Safety	3
	CMGT 4325	Advanced Estimating and Cost Analysis	3
	CMGT 4330	Mechanical Systems for Buildings	3
	CMGT 4340	Solar Energy for Building Construction	3
	CMGT 4355	Computer-Based Project Control	3
	CMGT 4380	Heavy Construction: Methods and Materials	3
	CMGT 4400	Construction Operations*	3
	COMM 1100	Introduction to Communication	3
	GE COMM 1200	Introduction to Mass Communication	1
	COMM 1275	Introduction to Media Technology	3
	COMM 1500	Writing Across the Media	1
	COMM 1519	Media Aesthetics	3
	COMM 1520	Introduction to Digital Journalism	3
	COMM 1630	Web Content and Promotion Strategies	3
	GE COMM 2000	Media Literacy	3
	COMM 2100	Introduction to Communication Theory	3
	COMM 2410	Multimedia Production	3
	COMM 2411	Audio Production	3
	COMM 2412	Introduction to Digital Video	3
	COMM 2450	Performance for the Media	3
	COMM 2475	Multicam Studio Production	3
	COMM 2530	Visual News Production	3
	COMM 3050	Cinematography	3
	COMM 3100	Communication Research Methods	3
	COMM 3410	Advanced Radio Production	3
	COMM 3411	Video Production II	3
	COMM 3413	Advanced Multimedia Production	3
	COMM 3450	Digital Video Editing	3
	COMM 4235	Media Promotions	3

GE CS 1000	Computers and Modern Society	
GE CS 1010	Introduction to Computer Science	3
GE CS 1030	Introduction to Computer Programming	3
CS 1100	Computer Programming I	3
CS 1110	Computer Programming II	3
GE CS 1800	Introduction to Cybersecurity	3
CS 1810	Video Game Theory and Analysis	3
CS 2200	Introduction to Computer Organization	3
CS 2300	Data Structures	3
CS 2800	Usable Privacy and Security	3
CS 2820	Game Programming	3
CS 3100	Programming Languages	3
CS 3110	Applications Programming in C# and .NET	3
CS 3120	Client Side Web Programming	3
CS 3130	Secure Programming	3
CS 3200	Computer Architecture	3
CS 3300	Introduction to Cryptography	3
CS 3500	C and UNIX Environment	3
CS 3600	Introduction to Data Visualization	3
CS 3800	Applications Development with VB.NET	3
CS 3810	Introduction to Game Design	3
CS 4000	Special Problems in Computer Science	3
CS 4010	Special Topics in Cybersecurity*	1-3
CS 4110	Mobile Applications Programming with Android	3
CS 4120	Advanced Applications Programming in Java	3
CS 4130	Server Side Web Programming	3
CS 4140	Web Applications Security	3
CS 4150	Object-Oriented Programming and Data Structures*	3
CS 4300	Algorithm Design and Analysis	3
CS 4500	Operating Systems	3
CS 4510	Introduction to Distributed Systems	3
CS 4600	Database Theory and Applications	3
CS 4610	Introduction to Cloud Computing	3
CS 4620	Big Data Systems	3
CS 4630	Data Mining	3
CS 4700	Artificial Intelligence	3
CS 4710	Introduction to Machine Learning	3
CS 4800	Computer Networking	3
CS 4810	Computer Graphics	3
CS 4820	Introduction to Information Assurance	3
CS 4830	Game Development	3
CS 4840	Ethical Hacking	3
CS 4850	Computer and Network Forensics	3
CS 4910	Software Engineering	3
CS 4930	Software Testing	3
EET 2300	Calculus for Electronics Engineering Technology	3
EET 2320	Advanced Digital Circuitry	3
EET 2330	Transform Analysis	3
EET 3034	Electronic Instruments and Measurements	3
EET 3048	Control of Electrical Machinery	4
EET 3310	Microprocessor Systems Design	4
EET 3330	Introduction to Communication Systems	3
EET 3340	Control Systems Design	3
EET 4300	Special Projects in Electronics Engineering Technology*	3
EET 4320	Advanced Control Systems Design*	3
EET 4330	Digital Signal Processing Systems Design*	3
ENGT 1000	Principles of Engineering	3
ENGT 1010	Materials for Manufacturing and Construction	3
ENGT 1012	Global Production Technology	3
ENGT 1510	Introduction to Manufacturing Processes	3
ENGT 2040	Engineering Material Science	2
ENGT 2500	Applied Computer Technology	3
ENGT 2515	Applied Manufacturing Processes	4
ENGT 2530	Machine Tool Technology	2
ENGT 2600	Lean Enterprises	3
ENGT 3001	New and Existing Energy Technology	3
ENGT 3120	Advanced Welding Technology I	3
ENGT 3130	Composite Technology I	3
ENGT 3200	Energy Production and Transmission	3
ENGT 3210	Manufacturing in the Aerospace Industry	3
ENGT 3300	Energy Conservation	3
ENGT 3501	Computer Programming for Manufacturing	3

Course	Title	Credits
ENGT 3510	Engineering Planning and Control	3
ENGT 3530	Inspection and Quality Control	3
ENGT 3550	Principles of Numerical Control	3
ENGT 3562	Computer Numerical Control (CNC)	3
ENGT 4060	Aerospace Manufacturing Safety	3
ENGT 4520	Robotics and Automation	3
ENGT 4550	Simulation in Engineering Technology	3
ENGT 4580	Quality Systems Engineering	3
ENGT 4590	Computer Integrated Manufacturing (CIM)	3
ENGT 4750	Lean Six Sigma	3
		3
ET 1010	Applied Electricity	3
ET 1020	General Electronics	
ET 1026	DC Circuit Analysis	4
ET 1027	AC Circuit Analysis	3
ET 1050	Digital Principles and Applications	4
ET 2048	Active Electronic Devices	3
ET 2058	Operational Amplifiers-Theory and Applications	4
		4
ET 2060	Microprocessors: Theory and Application	4
ET 2065	Computer Programming for Electronics Technology	
		4
ET 3014	Analog-Digital Circuitry	3
ET 3017	Programmable Logic Controllers	
ET 3020	Circuit Analysis and Implementation	4
ET 3022	AC and DC Machines	4
ET 3038	Audio Systems	4
ET 3041	Communication Systems	4
ET 4031	Introduction to Process Control	4
ET 4044	Video Systems	3
ET 4048	Advanced Communication Systems	4
		4
INST 4100	Integrating Technology into Teaching	4
INST 4110	Google Educator Prep	
INST 4300	Principles of Online Instruction	3
INST 4310	Fund Development for Educational Technology	3
		3
INST 4330	Technology Troubleshooting for Educators	1
INST 4400	Design and Production of Media for Instruction	
		2
INST 4920	Practicum in Instructional Technology	3
GEPHYS 1101	College Physics I	1
PHYS 1102	College Physics II	
GEPHYS 1103	Introduction to the Sciences: Physics	4
GEPHYS 1104	Introduction to the Sciences: Physics	4
PHYS 1123	Elementary Physics Laboratory I	3
PHYS 1124	Elementary Physics Laboratory II	4
PHYS 2020	Analytic Methods for Physics and Engineering	1
		1
GEPHYS 2121	University Physics I	3
PHYS 2122	University Physics II	5
PHYS 2123	University Physics I	5
PHYS 2124	University Physics II	4
PHYS 3012	Electrical Measurements Laboratory	4
PHYS 3080	Advanced Physics Laboratory	2
PHYS 3211	Analytical Mechanics I	1-3
PHYS 3311	Electric Circuit Theory	3
PHYS 3511	Modern Physics I	3
PHYS 3512	Modern Physics II	3
PHYS 3611	Optics	3
PHYS 4212	Analytical Mechanics II	3
PHYS 4312	Electricity and Magnetism	3
PHYS 4411	Thermodynamics	3
PHYS 4512	Introduction to Quantum Mechanics	3
PHYS 4513	Solid State Physics	3
PHYS 4711	Atomic and Nuclear Physics	3
		3
SAFE 1000	Exploring the Safety Sciences	
SAFE 1700	Introduction to Security	1
SAFE 1800	Principles of Emergency Services	3
GESAFE 2010	Practical Safety and Security	3
SAFE 2700	Physical Security Systems	3
SAFE 2800	Fire Prevention	3
		3
SAFE 2900	Applied Sciences for Professional Studies	
SAFE 3000	Principles of Accident Causation and Prevention	3
		3

	SAFE 3015	Emergency Preparedness	
	SAFE 3070	Safety Leadership	3
	SAFE 3120	Industrial Hygiene	3
	SAFE 3430	Industrial Hazard Control	3
	SAFE 3700	Security Organization and Management	3
	SAFE 3800	Building Construction for Fire Protection	3
	SAFE 4000	Ergonomics in Safety and Health	3
	SAFE 4010	Accident Investigation	3
	SAFE 4015	School Safety, Security and Crisis Management	3
	SAFE 4020	Legal Aspects of Safety and Health	3
	SAFE 4025	Workers' Compensation and Legal Aspects of Safety	3
	SAFE 4035	Safety Program Management	3
	SAFE 4140	Safety and Health Laboratory	3
	SAFE 4150	Noise Measurements	2
	SAFE 4160	Industrial Ventilation for Environmental Safety and Health	3
	SAFE 4215	Transportation and Storage of Hazardous Materials	3
	SAFE 4250	Traffic Engineering	3
	SAFE 4260	Management of Fleet Safety Programs	3
	SAFE 4300	Agricultural Safety	3
	SAFE 4425	Safety and Health Legislation and Standards	3
	SAFE 4430	Workers Compensation Legislation	3
	SAFE 4435	Environmental Compliance	3
	SAFE 4440	Environmental Air Quality and Pollution Prevention	3
	SAFE 4445	Water Quality and Waste Water Management	3
	SAFE 4450	Environmental Remediation	3
	SAFE 4510	Loss Control	3
	SAFE 4515	High Hazard Industries	3
	SAFE 4520	Safety and Risk Analysis	3
	SAFE 4560	Systems Safety	3
	SAFE 4700	Special Security Problems	3
	SAFE 4710	Security Technology	3
	SAFE 4720	Personnel and Information Security	3
	SAFE 4800	Water and Sprinkler Systems Analysis	3
	SAFE 4810	Fire Extinguishing and Alarm Systems	3
	SAFE 4820	Fire Protection Systems	3
	SAFE 4830	Fire Investigation	3
	SAFE 4850	Industrial Fire Protection	3
	SAFE 4940	Statistical Analysis for Risk Management	3
Section C Total Hours			**36**