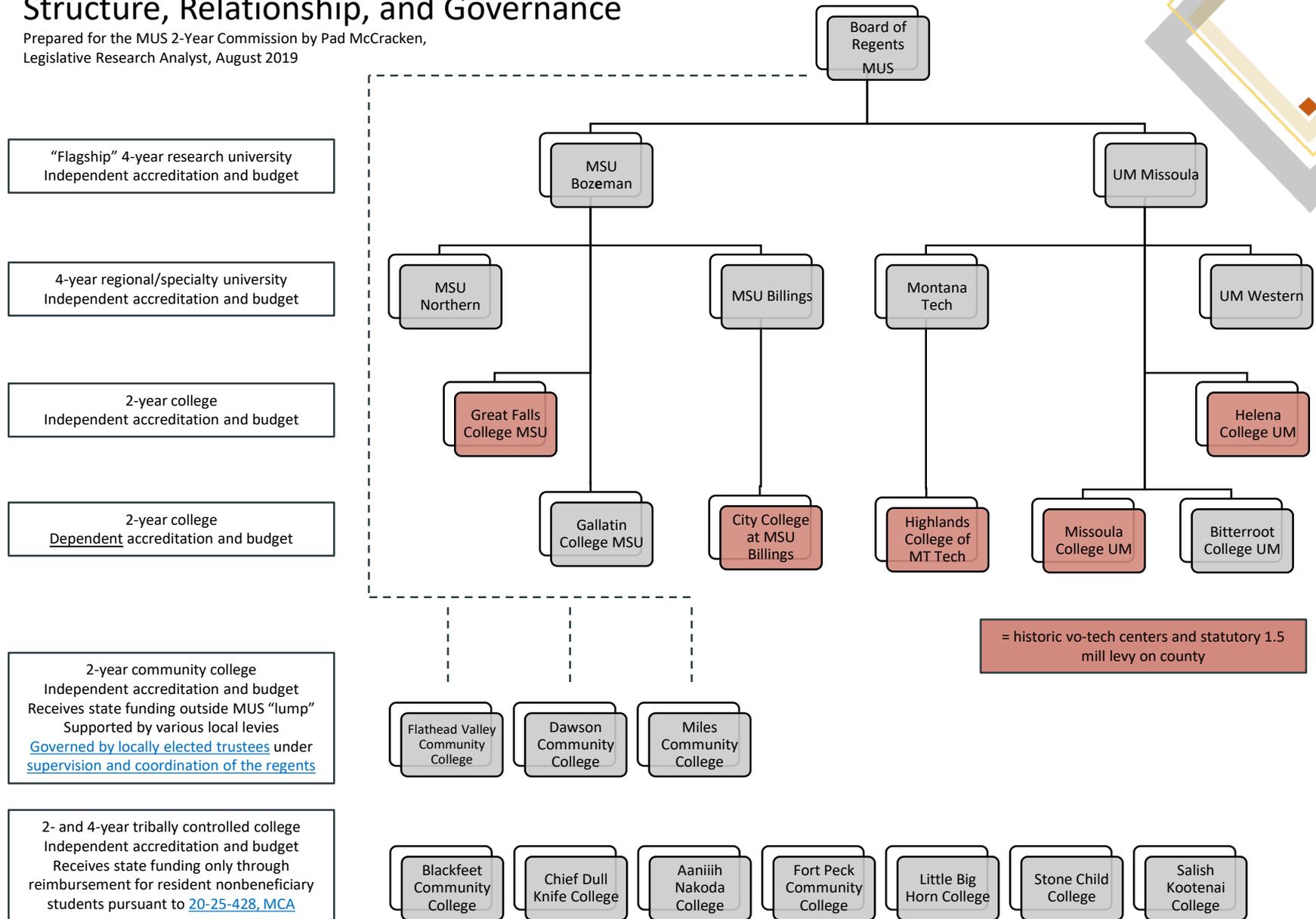
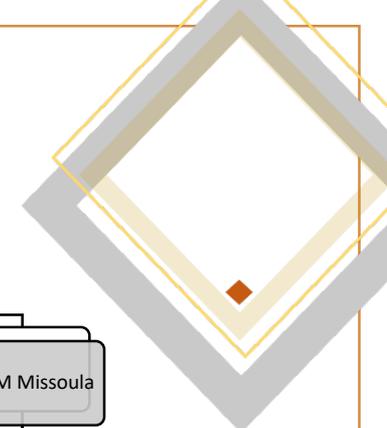


# Public Postsecondary Education in Montana: Structure, Relationship, and Governance

Prepared for the MUS 2-Year Commission by Pad McCracken,  
Legislative Research Analyst, August 2019



# What is Postsecondary CTE?

First of all, CTE only includes programs at the sub-baccalaureate level (associates degrees and certificates)

## CTE (“Occupational Education”)

CTE (Career and Technical Education) at the postsecondary level means: an instructional program that is classified by the National Center for Education Statistics as “Occupational Education” (all other programs are categorized as “Academic Education”)

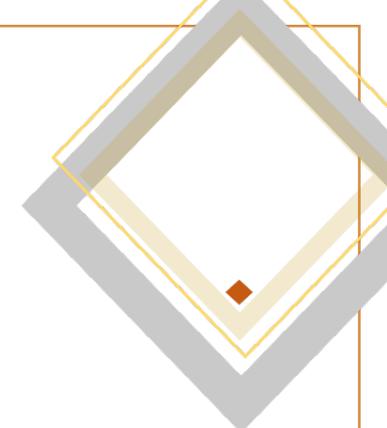
Welding  
Computer Technology  
Public, legal, and social services  
Repair  
Health Sciences  
Education  
Agriculture  
Automotive Technology  
Business

## Not CTE (“Academic Education”)

Biology  
History  
English  
Psychology  
Philosophy  
Economics  
Math  
Chemistry

Generally, when we are talking about CTE, whether K-12 or postsecondary, we are talking about the same thing: **education that is more directly focused on developing the specific skills needed for a job.**

So, a sub-baccalaureate program classified under the list to the left is CTE, a program on the right is not CTE.



**Occupational education**

Agriculture and natural resources	
Agriculture	01
Natural resources	03
Business and marketing	52
Communication and communications technologies	
Communication and journalism	09
Communications technologies	10
Computer and information sciences	11
Consumer services	
Family and consumer sciences (includes child care, family studies, and nutrition services)	19
Personal and culinary services	12
Parks, recreation, and fitness	31
Education	13
Engineering, architecture, and science technologies	
Architecture	04
Engineering	14
Engineering technologies	15
Military technologies	29
Science technologies	41
Health sciences	51
Protective services	
Protective services	43
Military science	28
Public, legal, and social services	
Legal professions and studies	22
Library science	25
Public administration and social services	44
Theology and religious vocations	39
Manufacturing, construction, repair, and transportation	
Construction	46
Repair	47
Manufacturing	48
Transportation	49

**Exhibit 1. Postsecondary taxonomy categories and 2-digit Classification of Instructional Programs (CIP) 2010 codes, for academic and occupational education: 2015-16 to present**

**Academic education**

Visual and performing arts	50
Humanities	
Foreign languages	16
Liberal arts	24
Philosophy and religious studies	38
Interdisciplinary studies	30
English/letters	23
Natural sciences and mathematics	
Biological sciences	26
Physical sciences	40
Mathematics	27
Social sciences and history	
Social sciences (includes anthropology, economics, geography, political science/government, and sociology)	45
Area/ethnic studies	05
History	54
Psychology	42

# Stackable Credentials: No dead ends, multiple on- and off- ramps!

Stackable credentials are designed so that a student can build a new credential on the foundation of one already achieved and not need to start all over again. This is not a new idea, but the emphasis is on ensuring that most, if not all, postsecondary credentials are stackable, and that a variety of next-level credentials can be built on every foundation.

Example—a student can earn a **Certificate of Applied Science** in Welding and Fabrication Technology in one year, enter the workforce, and at any time return and earn an **Associate of Applied Science** degree stacked on that C.A.S.

## 1-year C.A.S.

### First Year- Fall Semester

- EWLD 110 - Introduction to Nondestructive Testing Credit(s): 3
- M 114 - Extended Technical Mathematics Credit(s): 3 \*
- OR
- M 152M - Precalculus Algebra Credit(s): 3 \*
- WLDG 100 - Introduction to Welding Fundamentals Credit(s): 2
- WLDG 111 - Welding Theory I Practical Credit(s): 3
- WLDG 117 - Blueprint Reading and Welding Symbols Credit(s): 3
- WLDG 145 - Fabrication Basics I Credit(s): 2 \*

First Semester Total: 16

### Spring Semester

- COMX 115C - Introduction to Interpersonal Communication Credit(s): 3
- DDSN 114 - Introduction to CAD Credit(s): 3
- OR
- DDSN 135 - Solidworks Credit(s): 3
- WLDG 122 - Welding Theory III Practical Credit(s): 4 \*
- WLDG 146 - Fabrication Basics II Credit(s): 3 \*
- WLDG 185 - Welding Qualification Test Preparation Credit(s): 3 \*

Second Semester Total: 16

CAS Total Credits: 32

## 2-year A.A.S.

### Second Year

#### Fall Semester

- BMGT 205C - Professional Business Communication Credit(s): 3 \*<sup>1</sup>
- OR
- WRIT 101W - College Writing I Credit(s): 3 \*<sup>1</sup>
- COLS 115 - Workforce Preparation for Occupational Trades Credit(s): 1
- WLDG 119 - Welding Certification II Credit(s): 2 \*
- WLDG 210 - Pipe Welding Credit(s): 4 \*
- WLDG 220 - Welding Fabrication I Credit(s): 4 \*

First Semester Total: 14

<sup>1</sup>WRIT 101 is the preferred course.

#### Optional Course Offerings

- MCH 132 - Introduction to Engine Lathes Credit(s): 4 \*
- MCH 134 - Introduction to Mills Credit(s): 4

#### Spring Semester

- ELCT 105 - Electrical Circuitry Credit(s): 2
- EWLD 125 - AWS D1.1 Code Book Credit(s): 2 \*
- WLDG 136 - GMAW/GTAW Welding and Certification Credit(s): 4 \*
- WLDG 222 - Welding Fabrication II Credit(s): 4 \*
- WLDG 280 - Weld Testing Certification Credit(s): 4 \*

Second Semester Total: 16

AAS Total Credits: 62

#### Acronyms

AA – Associate of Arts

AS – Associate of Science

AAS – Associate of Applied Science

ADN – Associate Degree in Nursing

CAS – Certificate of Applied Science

CTS – Certificate of Technical Study

PC – Professional Certificate

Partnership – Degree given from partnered institution

## How does an A.A.S. differ from an A.S.?

An Associates degree in Science (or Arts) is designed to be a mid-point in the pursuit of a Bachelors degree through transfer and for this reason has a large number of credits devoted to meeting the General Education Core.

### Associate of Science Degree Requirements

General Education Core Requirements - Refer to the <b>General Education Core Curriculum</b> for a list of courses meeting these requirements.	Minimum Credits	Number of Courses
Communications (C)	3	1 C
Humanities (H)	3	1 H
Fine Arts (F) or Humanities (H)	3	1 F or 1 H
Global Issues (G)	3	1 G
Mathematics (M)	3	1 M
Natural Science (NL)	3	1 NL
Natural Science (N) or Natural Science (NL)	3	1 NL or 1 N
Social Sciences (A)	3	1 A
Social Sciences (B)	3	1 B
Writing (W)	3	1 W
<b>TOTAL</b>	<b>30</b>	
<b>Additional Degree Requirements</b>		
Mathematics (M) or Natural Science (N) or (L) or Natural Science (NL)	6	M, N, L, or NL
<b>TOTAL</b>	<b>6</b>	
<b>Electives</b>		
Courses chosen in specific subjects to prepare for transfer	24	
<b>TOTAL DEGREE CREDITS</b>	<b>60</b>	

#### Acronyms

AA – Associate of Arts

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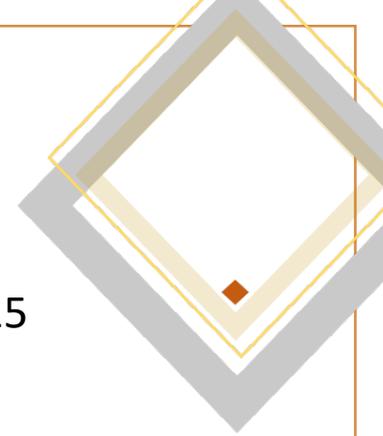
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## Headcount vs FTE



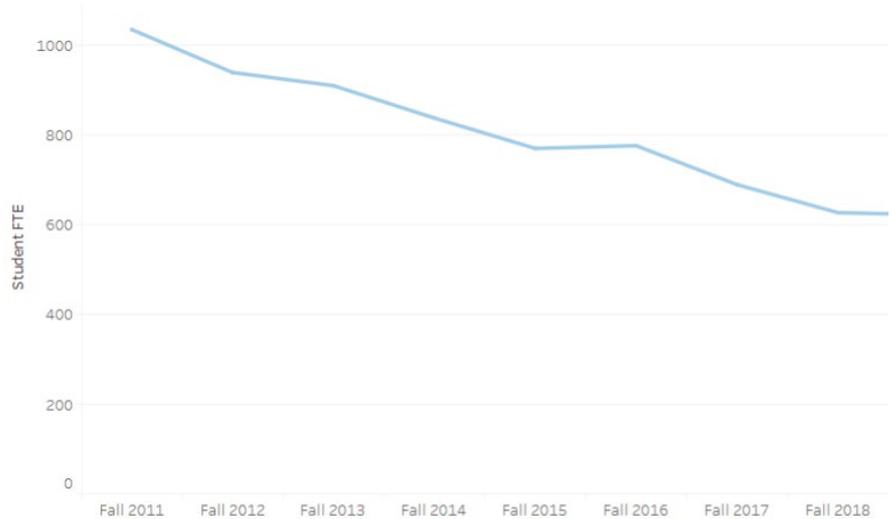
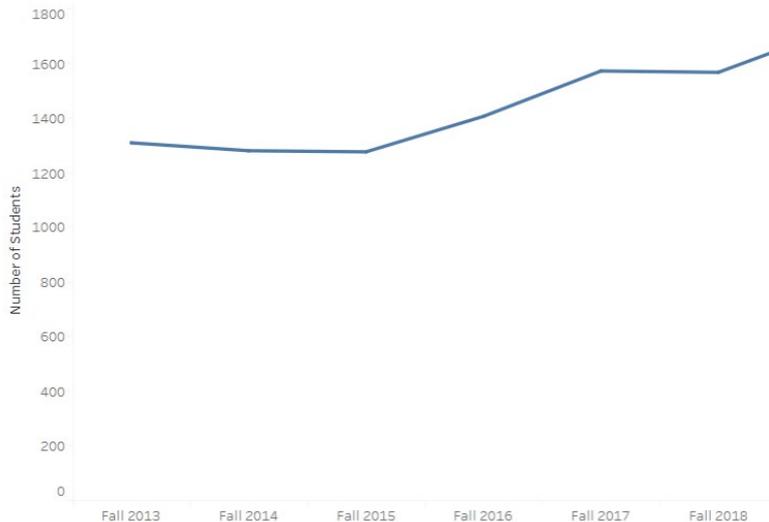
Headcount is simply the number of individuals enrolled at a campus.

FTE (full-time equivalent) is a measure of instructional activity that uses 15 credits per semester as the undergraduate benchmark of “full time”.

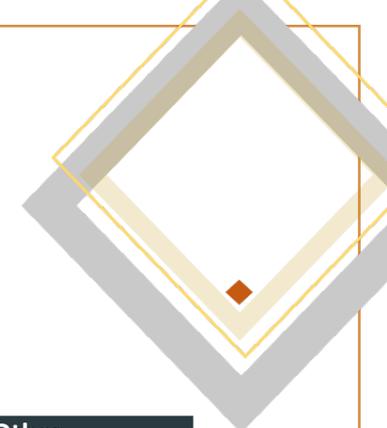
So, a part-time student enrolled in 6 credits is  $6/15$  or 0.4 FTE.

A student with 18 credits equals  $18/15$  or 1.2 FTE.

If a hypothetical campus or system is trending up in terms of headcount, but down in terms of FTE, what might be happening?



# Making Sense of Credentials, Credit, and CTE



	Type of Program * = typically considered CTE	Credit?	Included in FTE?	Other
<b>4-year Degrees</b>	Bachelor of Arts—BA Bachelor of Science—BS Bachelor of Science Nursing—BSN Bachelor of Applied Science—BAS	Yes	Yes	BAS degrees are increasing and allow a student to pursue a bachelor degree more easily stacked on an AAS.
<b>2-year Degrees</b>	Associate of Arts—AA Associate of Science—AS Associate of Science Nursing—ASN* Associate of Applied Science—AAS*	Yes	Yes	A person may become an RN (registered nurse) through either an ASN or BSN program. Ultimately, becoming an RN is about passing a licensure exam, the NCLEX.
<b>Non-degree Certificates</b>	Certificate of Applied Science—CAS* Certificate of Technical Studies—CTS* Certificate of Completion*	Yes	Yes	CAS is typically a one-year program; other certificates are typically shorter and may not be eligible for federal financial aid.
<b>Non-credit training</b>	Customized Instruction in preparation for licensure exams, industry-recognized credentialing, to support registered apprenticeship program, for specific workforce needs, etc.	No	No	Costs are typically borne by student, employer, campus, or combination; generally not eligible for federal financial aid.