

2013 HOUSE EDUCATION

HB 1331

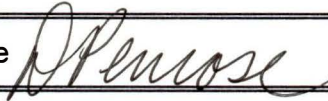
2013 HOUSE STANDING COMMITTEE MINUTES

House Education Committee
Pioneer Room, State Capitol

HB 1331
February 6, 2013
18420

☐ Conference Committee

Committee Clerk Signature



Minutes:

Ch. Nathe: We will open the hearing on HB 1331.

Rep. Joe Heilman: Sponsor, support. I work for an electronics manufacturing company. We design and manufacture surface mount technologies for aviation and agriculture. My job is in business development and I go around the world and work with agriculture equipment manufacturers to develop and implement new technologies and electronics for their equipment. In my opinion, that's a STEM job, but because I have a business degree, I don't qualify for the STEM occupations loan forgiveness program. I'm not putting in this bill so that I can, I'm putting in this bill to have the discussion with the Education committee and the Legislature on whether or not we want to address that line in the policy. The first handout (see attached #1) has some historical information on how many people applied or qualified for and received the STEM occupation loan forgiveness grant. Essentially it works the same as our academic and merit based scholarships work today, where you get \$1500.00 a year if you maintain the requirements. This extends that, essentially, into after graduation if you are in ND and you have a STEM job and the qualifying degree. Through the funds available in the loan forgiveness program, everyone in the last three years who has qualified for the program, every one of them has been funded, so there is still money in the program. It also shows you on the first page, how many qualified and funded and what the program areas were for those positions and the degree areas, and then on the back page of page 1, you will see the number of those students that graduated from ND institutions and those that graduated from out-of-state institutions. The way the program is set up now, if you graduated from an institution with a STEM degree, out of state and came to ND, and worked for a ND firm, in a qualifying occupation you could also access this program. This whole program was set up to attract more STEM degree holders to ND because the industry was crying out that we didn't have enough people in the science, technology, engineering and math fields. That was the impetus behind the program. My argument is, whatever your background, your degree, if you qualify for the STEM job, whether or not you have the degree, if that firm is willing to employ you, as someone having the skills necessary to perform well in that job, then in my opinion, you have the qualifications necessary for the STEM job and if we're really looking to encourage the STEM fields here in ND, I think that by passing this bill we would still accomplish that but also have the case that you don't need to have a degree solely in one of those four fields. The next few pages of the handout are the actual

applications that the University system office has on their website and then the qualifying degrees and programs. Then the qualifying occupations. So this bill would essentially remove the requirement for a STEM degree, you would still have to have a degree and makes them come from a ND institution. They would have to graduate from a ND institution, stay in the state, work for a firm that has the job for them, and then they would also qualify.

Ch. Nathe: You had mentioned moving in from out-of-state and now lives in the state and has a STEM job. You said that they would also be eligible under this bill.

Rep. Heilman: Not under this bill, that's the way it currently is. So if they went to MSUM, for example, and had a degree in whatever STEM field and moved to ND, or worked in ND, they would qualify under current law. This bill would change it, if we pass it as is; it would change it to make sure that they are ND graduates.

Ch. Nathe: I don't see a fiscal note on here. There is some fiscal impact on line 7, page 2.

Rep. Heilman: I asked if there would be a fiscal impact, LC told me that they didn't see any. They didn't see much of an impact because generally to get the STEM job, you have to have the degree, but it is those peripheral cases where they may have a strong background and so they didn't need the degree so they pursued a different one.

Ch. Nathe: We will need to move this out by Monday, which is the deadline for appropriations.

Rep. Heller: Why did you want to take the opportunity away from someone who might come from out of the state and get a STEM job here, because they will no longer qualify under this bill.

Rep. Heilman: As a matter of fact, that was an oversight when we were drafting the bill. I am perfectly fine if we wanted to amend that language out of this bill and still make it eligible for out of state graduates to come to ND and be eligible. This was just a discussion point. This was implemented years ago, when we had a cry for STEM degrees. If you look at who is taking advantage of the program, it is overwhelmingly by ND graduates.

Ch. Nathe: The bill for the pay down program for child care workers/day care providers was defeated on the Floor. How do you reconcile that with something like this.

Rep. Heilman: The debate is still up on loan forgiveness programs. I'm just making a policy change to current law. This is a current program we have funded. I'm not debating whether we should have the program, I'm just wondering how we want it implemented.

Rep. Mock: If you have an opening in one of the qualifying fields, and they hire legal counsel right out of law school. Because they are an engineering firm, that individual would be eligible to have the loan forgiveness program.

Rep. Heilman: That is not the intent of this bill. The bill would still say that you have to qualify for an applicable position, whatever that is on this list of actual occupations. You would still have to have the occupation, but the qualifying criteria for what degree you have. From my perspective, if you have the qualifications to get that engineering job, whether or not you have the degree, I would say that's a good thing.

Rep. Meier: You have a student that is going to BSC and takes the heating and cooling program, which is a 10 month program. Then after the student graduates, and let's say that student has an outstanding loan of \$4,000. Then the individual starts to work in the state, would that individual then be eligible for a loan forgiveness of \$1500 per year, so let's say 2 years for \$3,000. Is that correct.

Rep. Heilman: That's the way the program works today. This wouldn't necessarily change any of that. They still have to have the certain criteria for qualifying for the loan forgiveness, subsection 2c, have a 2.5 GPA based on the 4.0 system. So they still have to qualify with a degree. Under this bill, you would still need to have a degree from any institution. They would qualify for \$1500/yr. to payback their loan and in your case if it was \$4,000, they would get up to that amount if they still had outstanding debt. They make arrangements with the System office to pay the loan. They don't get a check, so the System office pays the lender.

Rep. Meier: They would get payment on the backend of employment after a year.

Rep. Heilman: From what I understand, yes.

Rep. Heller: Simply put, instead of their degree qualifying them for this scholarship, their job would qualify them.

Rep. Heilman: Yes. Today you need the degree and the job, and can come from anywhere. The bill as written, takes away the requirement that you have to have that particular degree, you would still have to have a degree and the STEM job, and graduated from ND college/university.

Rep. J. Kelsh: I graduated with a degree in business in 1962. Went back to the farm and the science it takes to raise cattle, feed them properly takes the science to do that; technology - how to sell equipment to put on proper fertilizer, seed, etc.,; engineering to be able to repair the equipment that the engineers didn't do properly; and the math - had to do a lot of creative math to make a profit. I still owe money on my loan, do I qualify.

Rep. Heilman: I would leave that to the system office whether or not you qualify. That's the discussion, do we want to reward the job, reward the degree or both. My

argument is if they qualify for the position, it shouldn't matter what their degree background is in.

Rep. Rust: Do we not have scholarship bills or laws on the books for STEM people to encourage them to go into those fields. This is kind of a back-end reward whereas scholarships are kind of a front-end reward. My thinking is if you want people to go into a particular field, that you front-end load it. After the degree is earned, it is a nice thing to do but it's kind of after the fact.

Rep. Heilman: I don't necessarily disagree with that statement. I guess one argument would be that if the incentive is there, it will yield results. This was to entice people to either move to the state or stay in the state that have their degrees so that our STEM employers have a workforce that they can tap into. That also helps attract new STEM employers to the state. Whether or not you and I agree with having a loan forgiveness program for those fields, that's not this bill. This bill is whether or not we want to adjust the policy to allow other degrees into this if they qualify for the job. I agree with the front-end scholarships, that's why we do them so that we can drive people into the degrees, but this is also an incentive I would say that the industry could use to say, to also drive people into degrees. I don't think this does much to incentivize people to go into degrees or not because I think the incentive is still there. To get an engineering job, you're going to most likely go into an engineering field in college. It's those ancillary, peripheral positions that I am talking about in the technology and science world.

Rep. Rohr: I liked the law the way it was written. That's because in #10 on the first page it says, the board shall adopt rules to implement the program including internship requirements, guidelines to determine which technology-related courses of study are eligible under the program and standards for eligibility. When you talk about businesses today, we have Help Wanted signs all over the place. I know that some businesses are actually hiring people, even though they don't have the degree, and then they teach them on-the-job training and I don't think that was the initial intent of the STEM program. I wouldn't vote for this bill because I think it should stay back with the original content.

Rep. Heilman: I was just putting it in for conversation. Others had approached me about this issue and I looked into it a little more and found out that we don't qualify.

Rep. Mock: Do you have amendments drafted that could restore the language that it would still apply to out-of-state graduates moving to ND and working here.

Rep. Heilman: I do not have any amendments drafted. I wanted us to have the discussion in the committee and then if we feel amendments are necessary to make it a better bill, I would be happy to work on those.

Ch. Nathe: Thank you. Further testimony in support. Testimony in opposition.

Deana Wiese, Executive Director, IT Council of ND: Opposed (see attached 2).

Ch. Nathe: Thank you. Further testimony in opposition. We will close the hearing.

Committee Action was taken in the afternoon on the same day.

Ch. Nathe: We will take a look at HB 1331. What are the committee's wishes.

Rep. Heilman: Passed out an amendment. The amendment essentially unstrikes the language from the end of line 10 to line 13. It would include the language as stated in current law, the board shall adopt rules to implement the program including internship requirements, guidelines to determine which technology related courses of study as eligible under the program standards for eligibility. It still gives the authority to the board to administer the program and figure out all the guidelines therein. Line 21, we removed the provision that is in the actual bill here to add the language that says located in this state. That would leave it the way it is to allow anybody from any state, who graduated from a board approved institution, to still partake in the program. On line 22, removes that overstrike, so that it, so that it would be from any institution approved by the board. I move the proposed amendments.

Rep. Heller: Second the motion.

Ch. Nathe: Voice vote, carried. We now have the bill before as amended.

Rep. Heilman: I move a Do Pass as amended.

Rep. Mock: Second the motion.

3 YES 9 NO 1 ABSENT DO PASS MOTION FAILS

Rep. Schatz: I move a Do Not Pass as amended.

Rep. Rohr: Second the motion.

8 YES 4 NO 1 ABSENT DO NOT PASS AS AMENDED CARRIER: Rep. Heller

February 6, 2013

VK
2/7/13

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1331

Page 1, line 10, remove the overstrike over "~~The board shall adopt~~"

Page 1, remove the overstrike over lines 11 and 12

Page 1, line 13, remove the overstrike over "~~and standards for eligibility~~"

Page 1, line 21, remove "located in this state"

Page 1, line 22, remove the overstrike over "~~, at a board approved college~~"

Renumber accordingly

Date: 2/6/13
Roll Call Vote #: _____

2013 HOUSE STANDING COMMITTEE
ROLL CALL VOTES

BILL/RESOLUTION NO. 1337

House _____ **EDUCATION** _____ Committee

☐ Check here for Conference Committee

Legislative Council Amendment Number 13.0575.010010200
Amendment

Action Taken: ☐ Do Pass ☒ Amended ☐ Rerefer to Appropriations
☐ Do Not Pass ☐ Adopt Amendment

Motion Made By Rep. Heilman Seconded By Rep. Heller

Representatives	Yes	No	Representatives	Yes	No
Chairman Mike Nathe			Rep. Bob Hunsakor		
Rep. Mike Schatz			Rep. Jerry Kelsh		
Rep. Joe Heilman			Rep. Corey Mock		
Rep. Brenda Heller					
Rep. Dennis Johnson					
Rep. Ben Koppelman					
Rep. Lisa Meier					
Rep. Karen Rohr					
Rep. David Rust					
Rep. John Wall					

TOTAL (YES) _____ (NO) _____ (ABSENT) _____

FLOOR ASSIGNMENT _____

If the vote is on an amendment, briefly indicate intent:

Vote
passed

Date: 2/6/13Roll Call Vote #: 12013 HOUSE STANDING COMMITTEE
ROLL CALL VOTESBILL/RESOLUTION NO. 1331

House

EDUCATION

Committee

☐ Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken: ☒ Do Pass ☒ Amended ☐ Rerefer to Appropriations☐ Do Not Pass ☐ Adopt AmendmentMotion Made By Rep. Heilman Seconded By Rep. Mock

Representatives	Yes	No	Representatives	Yes	No
Chairman Mike Nathe		<input checked="" type="checkbox"/>	Rep. Bob Hunsakor		<input checked="" type="checkbox"/>
Rep. Mike Schatz		<input checked="" type="checkbox"/>	Rep. Jerry Kelsh		<input checked="" type="checkbox"/>
Rep. Joe Heilman	<input checked="" type="checkbox"/>		Rep. Corey Mock	<input checked="" type="checkbox"/>	
Rep. Brenda Heller		<input checked="" type="checkbox"/>			
Rep. Dennis Johnson		<input checked="" type="checkbox"/>			
Rep. Ben Koppelman	<input checked="" type="checkbox"/>				
Rep. Lisa Meier		<input checked="" type="checkbox"/>			
Rep. Karen Rohr		<input checked="" type="checkbox"/>			
Rep. David Rust		<input checked="" type="checkbox"/>			
Rep. John Wall					

TOTAL (YES) 3 (NO) 9 (ABSENT) 1

FLOOR ASSIGNMENT _____

If the vote is on an amendment, briefly indicate intent:

Motion failed

Date: 2/6/13Roll Call Vote #: 22013 HOUSE STANDING COMMITTEE
ROLL CALL VOTESBILL/RESOLUTION NO. 1331

House

EDUCATION

Committee

☐ Check here for Conference CommitteeLegislative Council Amendment Number 13.0575.01001 02000Action Taken: ☐ Do Pass ☒ Amended ☐ Rerefer to Appropriations☒ Do Not Pass ☐ Adopt AmendmentMotion Made By Rep. Schatz Seconded By Rep. Rohr

Representatives	Yes	No	Representatives	Yes	No
Chairman Mike Nathe	✓		Rep. Bob Hunsakor		✓
Rep. Mike Schatz	✓		Rep. Jerry Kelsh	✓	
Rep. Joe Heilman		✓	Rep. Corey Mock		✓
Rep. Brenda Heller	✓				
Rep. Dennis Johnson	✓				
Rep. Ben Koppelman		✓			
Rep. Lisa Meier	✓				
Rep. Karen Rohr	✓				
Rep. David Rust	✓				
Rep. John Wall					

TOTAL (YES) 8 (NO) 4 (ABSENT) 1FLOOR ASSIGNMENT Rep. Heller

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1331: Education Committee (Rep. Nathe, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO NOT PASS** (8 YEAS, 4 NAYS, 1 ABSENT AND NOT VOTING). HB 1331 was placed on the Sixth order on the calendar.

Page 1, line 10, remove the overstrike over "~~The board shall adopt~~"

Page 1, remove the overstrike over lines 11 and 12

Page 1, line 13, remove the overstrike over "~~and standards for eligibility~~"

Page 1, line 21, remove "located in this state"

Page 1, line 22, remove the overstrike over "~~, at a board-approved college~~"

Renumber accordingly

2013 TESTIMONY

HB 1331

Science, Technology, Engineering and Mathematics (STEM) Occupations Student Loan Forgiveness Program

Overview:

The STEM occupations student loan forgiveness program is intended to encourage students to pursue STEM related careers in North Dakota.

The program reduces student loan indebtedness for individuals who have: (1) graduated in STEM-related fields and (2) been employed in STEM occupations in the state for one year.

Recipients are eligible to receive \$1,500 in loan forgiveness each year they are employed in approved STEM occupations in North Dakota, up to a maximum of four years or \$6,000.

For academic year 2011-12, the average student loan indebtedness of funded applicants, as reported on their applications, was \$11,197. Awardees worked for more than 250 North Dakota employers.

STEM Payment History:

Applications	Received	Qualified	Funded
2009-10	784	601	601
2010-11	772	702	702
2011-12	1009	892	892

Program areas by 2-digit CIP code of 2011-12 funded applicants	Applicants funded
01) Agriculture, Agriculture Operations, and Related Sciences	17
03) Natural Resources and Conservation	14
04) Architecture and Related Services	30
11) Computer and Information Sciences and Support Services	128
13) Education	64
14) Engineering	279
15) Engineering Technologies and Engineering –Related Fields	93
26) Biological and Biomedical Sciences	49
27) Mathematics and Statistics	12
40) Physical Sciences	27
43) Homeland Security, Law Enforcement, Firefighting and Related Protective Services	3
46) Construction Trades	4
47) Mechanic and Repair Technologies/Technicians	13
48) Precision Production	4
49) Transportation and Materials Moving	15
51) Health Professions and Related Programs	99
52) Business, Management, Marketing, and Related Support Services	41
Total	892

Heilman, Joe A.

From: Padilla, Gina <gina.padilla@ndus.edu>
Sent: Wednesday, January 23, 2013 7:32 AM
To: Heilman, Joe A.
Cc: Glatt, Laura J.
Subject: RE: STEM Student Loan Forgiveness Program information request

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Categories: TESTIFY

Representative Heilman,

The information you requested on the number of STEM recipients who graduated from an out-of-state institution is listed in the table below. Feel free to contact me if you have questions on the information.

Best Regards,
Gina Padilla

STEM Student Loan Forgiveness

	ND Degrees		Out-of-State Degrees		Total Recipients (funded)
	Number	% of Total Funded	Number	% of Total Funded	
2009-10	537	89%	64	11%	601
2010-11	639	91%	63	9%	702
2011-12	802	90%	90	10%	892



Gina Padilla

Assistant Director of Financial Aid

North Dakota University System

1815 Schafer St., Ste 202

Bismarck ND 58501

Ph: 701.224.2647 Fax: 701.224.5707

Email: gina.padilla@ndus.edu

Web: ndus.edu

From: Heilman, Joe A. [<mailto:jaheilman@nd.gov>]
Sent: Tuesday, January 22, 2013 10:37 AM
To: Padilla, Gina



Application for STEM Occupations Student Loan Forgiveness Program

Application year: May 1, 2012 - June 30, 2012

Note: This program was formerly administered under the title "Technology Occupations Student Loan Forgiveness program."

- Follow instructions carefully
- Disclosure of your Social Security number is voluntary. Social Security numbers are used as an individual ID number for record keeping and administrative purposes. If you do not disclose your Social Security number, an individual ID number will be assigned. Failure to provide a Social Security number may cause delays in administrative services such as financial aid processing.
- Questions about the program or procedures for making application should be directed to Gina Padilla at 701.328.2964 or Nathan Stratton at 701.328.4114.
- Print or type

General Information

Name (Last, First, Middle Initial)	Social Security No.	
Email	Daytime Phone No.	
Present Mailing Address	City	State/Zip Code
Permanent Mailing Address (if different)	City	State/Zip Code

Education and Occupation

Did you graduate from a campus STEM related major as defined in Table 1? <input type="checkbox"/> Yes <input type="checkbox"/> No
• If yes, the Program CIP Code for that major is: _____
List STEM Job Occupation Code (Reference Table 2): _____ A degree from Table 1 is required for Table 2 occupations to qualify.
Did you have a cumulative grade point average of at least 2.5 on a 4.0 scale when you received your degree? <input type="checkbox"/> Yes <input type="checkbox"/> No (Attach copy of final college transcript if one has not previously been submitted)

Loan Information

Do you have one of the student loans listed below? <input type="checkbox"/> Yes <input type="checkbox"/> No	
• If yes, indicate which loan you wish to have reduced under this program: (check only one)	
<input type="checkbox"/> FFEL Stafford (subsidized) <input type="checkbox"/> FFEL Stafford (unsubsidized) <input type="checkbox"/> FFEL Consolidated Loan <input type="checkbox"/> Dakota Educational Alternative Loan (DEAL)	<input type="checkbox"/> William D. Ford Federal Direct Loan (subsidized) <input type="checkbox"/> William D. Ford Federal Direct Loan (unsubsidized) <input type="checkbox"/> William D. Ford Federal Direct Consolidated Loan <input type="checkbox"/> Federal Perkins Loan
Amount owed on this loan:	as of : (Date)

If approved, I wish to have my loan forgiveness payment sent to the following holder of my student loan:

Name of Financial Institution	Phone No.	
Address	City	State/Zip Code

Applicant Statement of Certification and Authorization

I hereby certify that the information contained on this application is true and correct. I understand that I have the specific responsibility for applying for the STEM Occupations Student Loan Program **each year**. I also give my employer permission to release to the North Dakota University System any information that may be needed to verify the contents of my application, and for the North Dakota University System to share this information with the Bank of North Dakota or other participating lender to process payment of my outstanding loan.

Signature of Applicant

Date

Personnel Director or CEO Statement of Certification

I hereby certify that _____ with social security number of _____
(name of applicant)
was employed full time with _____ and works in
name of company
North Dakota at _____
(applicant's worksite location/address)
during the period of _____ to _____ in an occupation which can be
(hire date) (date of termination or present)
classified as a STEM job occupation SOC code number ____ - ____ as defined in Table 2.

Printed name and title of authorized official

Email Address

Work Phone Number

Signature of authorized official

Date

* Certifications dated prior to the program opening date may be subject to verification.

Please print and return complete application, certifications, and transcript to:

**STEM Occupations Loan Forgiveness
North Dakota University System
600 E Boulevard Ave Dept 215
Bismarck ND 58505-0230**

North Dakota University System - Table 1 STEM Program Areas and Codes

List of Active Programs 2011

(Derived from 2000 Draft CIP's, United States Department of Education)

<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>
01.0201	Agricultural Mechanization, General <ul style="list-style-type: none"> • Agricultural Systems Management – NDSU 	04.0201	Architecture <ul style="list-style-type: none"> • Architecture – NDSU 	11.0901	Computer Systems Networking and Telecommunications <ul style="list-style-type: none"> • Computer Applications – CCCC • Computer Support Specialist – BSC • Information Technology – DCB • Microsoft Certified Network Administrator – FBCC
01.0205	Agricultural Mechanics and Equipment/Machine Technology <ul style="list-style-type: none"> • John Deere Technology – NDSCS 	04.0401	Environmental Design/Architecture <ul style="list-style-type: none"> • Environmental Design – NDSU 	11.1002	System, Networking, and LAN/WAN Management/Administration <ul style="list-style-type: none"> • Information Technology – WSC
01.0401	Agricultural and Food Products Processing <ul style="list-style-type: none"> • Cereal Science – NDSU 	04.0601	Landscape Architecture <ul style="list-style-type: none"> • Landscape Architecture – NDSU 	11.1004	Web/Multimedia Management and Webmaster <ul style="list-style-type: none"> • Information Technology - Web Master – DCB
01.0901	Animal Sciences, General <ul style="list-style-type: none"> • Animal Sciences – NDSU 	11.0101	Computer and Information Sciences, General <ul style="list-style-type: none"> • Computer Information Specialist – FBCC • Computer Information Systems – MaSU, NDSCS, UM, VCSU • Computer Science – DSU, JC, MiSU, UND 	11.9999	Computer and Information Sciences and Support Services/Other <ul style="list-style-type: none"> • Computer Information System (BAS) – MaSU • Computer Tech Support Specialist – TMCC • Information Technology - Web Design – DCB
01.1001	Food Science <ul style="list-style-type: none"> • Food Science – NDSU 	11.0103	Information Technology <ul style="list-style-type: none"> • Computer Information Technology – UTTC • Enterprise Application – VCSU • Information Technology – JC, SBC 	13.0501	Educational/Instructional Media Design <ul style="list-style-type: none"> • Instructional Design & Technology – UND
01.1102	Agronomy and Crop Science <ul style="list-style-type: none"> • Plant Sciences – NDSU 	11.0201	Computer Programming/Programmer, General <ul style="list-style-type: none"> • Computer Science Basic Programming – MiSU • Software Systems Design – RC 	13.1309	Technology Teacher Education/ Industrial Arts Teacher Education <ul style="list-style-type: none"> • Education – VCSU • Technology Education – DSU, VCSU
01.1103	Horticultural Science <ul style="list-style-type: none"> • Horticulture – NDSU 	11.0301	Data Processing and Data Processing Technology/Technician <ul style="list-style-type: none"> • Computer Technology Management – DSU • Information Processing – WSC • Information Technology – MaSU 	13.1311	Mathematics Teacher Education <ul style="list-style-type: none"> • Elementary Education/Mathematics – UND • Mathematics Education – DSU, JC, MaSU, MiSU, VCSU, UM
01.1105	Plant Protection and Integrated Pest Management <ul style="list-style-type: none"> • Plant Protection – NDSU (t) 	11.0401	Information Science/Studies <ul style="list-style-type: none"> • Information Technology – UM • Virtual Business – MiSU 	13.1316	Science Teacher Education/General Science Teacher Education <ul style="list-style-type: none"> • Composite Science Education – VCSU (t) • Comprehensive Science Education – NDSU • Earth Science Education – MiSU, NDSU • Physical Science Education – MiSU • Science Education – MiSU, UND • Science Teacher Education – DSU • Secondary Science – TMCC • Secondary Science Education – SBC
01.1201	Soil Science and Agronomy, General <ul style="list-style-type: none"> • Soil Science – NDSU 	11.0501	Computer Systems Analysis/Analyst <ul style="list-style-type: none"> • Information Systems – UND 	13.1319	Technical Teacher Education <ul style="list-style-type: none"> • Career and Technical Education – UND (t), VCSU
03.0101	Natural Resources/Conservation, General <ul style="list-style-type: none"> • Environmental Technology-Natural Resource Management – DCB • Natural Resource Management – SBC 	11.0701	Computer Science <ul style="list-style-type: none"> • Computer Science – NDSU • Scientific Computing – UND 		
03.0103	Environmental Studies <ul style="list-style-type: none"> • Earth System Science and Policy – UND • Environmental Science – SBC • Environmental Studies – UND • Studies in Community and Environment – MiSU 	11.0801	Web Page, Digital/Multimedia and Information Resources Design <ul style="list-style-type: none"> • Multimedia Technologies – RC • Web Development – MiSU • Web Page Development and Design – BSC 		
03.0104	Environmental Science <ul style="list-style-type: none"> • Environmental Science – DSU, FBCC 				
03.0201	Natural Resources Management and Policy <ul style="list-style-type: none"> • Natural Resources Management – CCCC, NDSU 				
03.0508	Urban Forestry <ul style="list-style-type: none"> • Arboriculture and Urban Forestry – DCB 				
03.0601	Wildlife, Fish and Wildlands Science and Management <ul style="list-style-type: none"> • Fisheries and Wildlife Sciences – VCSU • Wildlife and Fisheries Technology – DCB 				

• Indicates programs known to exist in North Dakota. Students graduating from comparable programs in other states are eligible when students meet North Dakota residency and other requirements.

(t) Indicates program that has been terminated.

Acronyms: BSC = Bismarck State College, DCB = Dakota College at Bottineau, DSU = Dickinson State University, FBCC = Fort Berthold Community College, JC = Jamestown College, LRSC = Lake Region State College, MaSU = Mayville State University, MiSU = Minot State University, NDSCS = North Dakota State College of Science, NDSU = North Dakota State University, RC = Rasmussen College, TMCC = Turtle Mountain Community College, UM = University of Mary, UTTC = United Tribes Technical College, UND = University of North Dakota, VCSU = Valley City State University, WSC = Williston State College

<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>
13.1322	Biology Teacher Education <ul style="list-style-type: none"> • Biological Sciences Education – NDSU • Biology Education – DSU, MiSU, UM • Biology Teacher Education – JC • Composite Biology Education – MaSU, VCSU 	14.3501	Industrial Engineering <ul style="list-style-type: none"> • Industrial & Manufacturing Engr – NDSU • Industrial Engineering & Management – NDSU 	15.0506	Water Quality and Wastewater Treatment Management Technology/Technician <ul style="list-style-type: none"> • Environmental Technology - Water Management • Water and Wastewater Technology – BSC • Water Quality Technology – DCB (t)
13.1323	Chemistry Teacher Education <ul style="list-style-type: none"> • Chemistry Education – DSU, JC, MiSU, NDSU • Composite Chemistry Education – MaSU, VCSU 	14.3601	Manufacturing Engineering <ul style="list-style-type: none"> • Manufacturing Engineering – NDSU 	15.0507	Environmental Engineering Technology/Environmental Technology <ul style="list-style-type: none"> • Environmental Technology-Laboratory & Field Technology – DCB
13.1329	Physics Teacher Education <ul style="list-style-type: none"> • Composite Physical Science – MaSU (t) • Physics Education – MiSU, NDSU 	14.3801	Surveying Engineering <ul style="list-style-type: none"> • Environmental Technology-Geographic Information Systems – DCB 	15.0599	Environmental Control Technologies/Technicians, Control <ul style="list-style-type: none"> • Renewable Generation Technology – BSC
14.0101	Engineering, General <ul style="list-style-type: none"> • Engineering – NDSU, UND • Engineering Science – UM 	14.3901	Geological/Geophysical Engineering <ul style="list-style-type: none"> • Geological Engineering – UND 	15.0612	Industrial Technology/Technician <ul style="list-style-type: none"> • Industrial Technology – UND • Process Plant Technology – BSC, TMCC
14.0301	Agricultural Engineering <ul style="list-style-type: none"> • Agricultural & Biosystems Engineering – NDSU 	14.9999	Engineering, Other <ul style="list-style-type: none"> • Sustainable Energy Engineering – UND 	15.0613	Manufacturing Engineering Technology/Technician <ul style="list-style-type: none"> • Automated Manufacturing Technician – NDSCS
14.0701	Chemical Engineering <ul style="list-style-type: none"> • Chemical Engineering – UND 	15.0000	Engineering Technology <ul style="list-style-type: none"> • Engineering Technology – BSC 	15.0699	Industrial Production Technologies/Technicians, Other <ul style="list-style-type: none"> • Power Plant Technology – BSC
14.0801	Civil Engineering, General <ul style="list-style-type: none"> • Civil Engineering – NDSU, UND 	15.0101	Architectural Engineering Technology/Technician <ul style="list-style-type: none"> • Architectural Drafting & Estimating Technology – NDSCS 	15.0701	Occupational Safety and Health Technology/Technician <ul style="list-style-type: none"> • Occupational Safety & Environmental Health – UND
14.0901	Computer Engineering, General <ul style="list-style-type: none"> • Computer Engineering – NDSU 	15.0201	Civil Engineering Technology/Technician <ul style="list-style-type: none"> • Civil Engineering & Surveying Technology – NDSCS 	15.0903	Petroleum Technology/Technician <ul style="list-style-type: none"> • Petroleum Engineering Technology – BSC • Petroleum Production Technology – BSC, WSC
14.0903	Computer Software Engineering <ul style="list-style-type: none"> • Software Engr – NDSU 	15.0303	Electrical, Electronic and Communications Engineering Technology/Technician <ul style="list-style-type: none"> • Electric Power Technology – BSC • Electrical Transmission Systems Technology – BSC • Electronics Technology – BSC • Electronics/Telecommunications Technology – BSC 	15.1001	Construction Engineering Technology/Technician <ul style="list-style-type: none"> • Construction Mgmt Tech – NDSCS
14.1001	Electrical and Electronics Engineering <ul style="list-style-type: none"> • Electrical & Comp Engr – NDSU • Electrical Engineering – NDSU, UND 	15.0399	Electrical and Electronic Engineering Technologies/Technicians <ul style="list-style-type: none"> • Electrical Technology – NDSCS • Electronic Technology – NDSCS (t) • Wind Energy Technician – LRSC 	15.1102	Surveying Technology/Surveying <ul style="list-style-type: none"> • Geographic Information System Technician – BS
14.1401	Environmental/Environmental Health Engineering <ul style="list-style-type: none"> • Environmental Engineering – NDSU • Environmental Geoscience – UND • Interdisciplinary Environmental Engineering (Post Bach. Cert.) – UND 	15.0499	Electromechanical & Instrumentation and Maintenance Technologies/Technicians, Other <ul style="list-style-type: none"> • Instrumentation and Control Technologies – BSC 	15.1401	Nuclear Engineering Technology/Technician <ul style="list-style-type: none"> • Nuclear Power Technology – BSC
14.1801	Materials Engineering <ul style="list-style-type: none"> • Materials & Nanotechnology – NDSU 	15.0501	Heating, Ventilation, Air Conditioning and Refrigeration Engineering Technology/Technician (ACH/ACR/ACHR/HRAC/HVAC/AC Technology) <ul style="list-style-type: none"> • Heating, Ventilating, Air Conditioning & Refrigeration Technology – NDSCS 	15.1601	Nanotechnology <ul style="list-style-type: none"> • Nanoscience Technology – NDSCS
14.1901	Mechanical Engineering <ul style="list-style-type: none"> • Mechanical Engineering – NDSU, UND 	15.0503	Energy Management and Systems Technology/Technician <ul style="list-style-type: none"> • Energy Auditor Program – UTTC • Energy Technician – SBC 	15.9999	Engineering Technologies and Engineering Related Other <ul style="list-style-type: none"> • Energy Technology – FBCC
14.2501	Petroleum Engineering <ul style="list-style-type: none"> • Petroleum Engineering – UND 			26.0101	Biology/Biological Sciences, General <ul style="list-style-type: none"> • Biological Sciences – NDSU • Biology – DSU, JC, MaSU, MiSU, NDSU, UM, VCSU • Biology/Pre-Health – UND
14.3301	Construction Engineering <ul style="list-style-type: none"> • Construction Engineering – NDSU 			26.0202	Biochemistry <ul style="list-style-type: none"> • Biochemistry – JC, NDSU, UND

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<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>
26.0204	Molecular Biology <ul style="list-style-type: none"> • Molecular and Integrative Biology – UND 	27.0101	Mathematics, General <ul style="list-style-type: none"> • Mathematics – DSU, FBCC, JC, MaSU, MiSU, NDSU, UM, UND, VCSU 	47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician <ul style="list-style-type: none"> • Heating, Ventilation and Air Conditioning – BSC • Mechanical Systems – NDSCS • Plumbing – FBCC
26.0210	Biochemistry and Molecular Biology <ul style="list-style-type: none"> • Biochemistry & Molecular Biology – NDSU 	27.0301	Applied Mathematics, General <ul style="list-style-type: none"> • Applied Math, General – JC 	47.0303	Industrial Mechanics and Maintenance Technology <ul style="list-style-type: none"> • Mechanical Maintenance Technology – BSC
26.0301	Botany/Plant Biology <ul style="list-style-type: none"> • Botany – NDSU 	27.0501	Statistics, General <ul style="list-style-type: none"> • Applied Statistics – NDSU • Statistics – NDSU 	47.0604	Automobile/Automotive Mechanics Technology/Technician <ul style="list-style-type: none"> • Automotive Service Technology – UTTC • Automotive Technology – BSC, CCCC, LRSC, NWSU
26.0305	Plant Pathology/Phytopathology <ul style="list-style-type: none"> • Plant Pathology – NDSU 	30.0101	Biological and Physical Sciences <ul style="list-style-type: none"> • Math/Science Composite – UM 	47.0605	Diesel Mechanics Technology/Technician <ul style="list-style-type: none"> • Caterpillar Dealer Service Technician – NDSCS • Diesel Technology – LRSC, NDSCS, WSC
26.0403	Anatomy <ul style="list-style-type: none"> • Anatomy – UND 	30.1101	Multi/Interdisciplinary Studies <ul style="list-style-type: none"> • Gerontology – NDSU 	47.0606	Small Engine Mechanics and Repair Technology/Technician <ul style="list-style-type: none"> • Recreational Engines Technology – NDSCS
26.0406	Cell/Cellular and Molecular Biology <ul style="list-style-type: none"> • Cellular & Molecular Biology – NDSU 	40.0101	Physical Sciences <ul style="list-style-type: none"> • Physical Science – MiSU, UND • Physical Science Education – MaSU 	47.0699	Vehicle Maintenance and Repair Technologies, Other (qualify) <ul style="list-style-type: none"> • Automotive & Diesel Master Technician – NDSCS
26.0502	Microbiology, General <ul style="list-style-type: none"> • Microbiology – NDSU 	40.0401	Atmospheric Sciences and Meteorology, General <ul style="list-style-type: none"> • Atmospheric Sciences – UND • Atmospheric Studies – UND 	48.0501	Machine Tool Technology/Machinist <ul style="list-style-type: none"> • Machinist and Toolmaker – NDSCS
26.0503	Medical Microbiology and Bacteriology <ul style="list-style-type: none"> • Microbiology – UND 	40.0501	Chemistry, General <ul style="list-style-type: none"> • Chemistry – DSU, JC, MaSU, MiSU, NDSU, UND, VCSU 	48.0508	Welding Technology/Welder <ul style="list-style-type: none"> • Welding – BSC • Welding & Basic Machining – LRSC • Welding Technology – NDSCS, WSC
26.0701	Zoology/Animal Biology <ul style="list-style-type: none"> • Zoology – NDSU 	40.0507	Polymer Chemistry <ul style="list-style-type: none"> • Coatings & Polymeric Materials – NDSU 	49.0101	Aeronautics/Aviation/Aerospace Science and Technology, General <ul style="list-style-type: none"> • Aeronautical Studies – UND (t) • Aviation – UND
26.0702	Entomology <ul style="list-style-type: none"> • Entomology – NDSU 	40.0601	Geology/Earth Science, General <ul style="list-style-type: none"> • Geology – MiSU, NDSU, UND 	49.0102	Airline/Commercial/Professional Pilot and Flight Crew, Other <ul style="list-style-type: none"> • Commercial Aviation – UND
26.0709	Wildlife Biology <ul style="list-style-type: none"> • Fisheries & Wildlife Biology – UND 	40.0801	Physics, General <ul style="list-style-type: none"> • Physics – MiSU, NDSU, UND 	49.0104	Aviation/Airway Management and Operations <ul style="list-style-type: none"> • Airport Management – UND • Aviation Management – UND • Aviation Technology Management – UND
26.0807	Genome Sciences/Genomics <ul style="list-style-type: none"> • Genomics and Bioinformatics – NDSU 	41.0301	Chemical Technology/Technician <ul style="list-style-type: none"> • Science Technology – NDSCS (t) 	49.0105	Air Traffic Controller <ul style="list-style-type: none"> • Air Traffic Control – UND
26.0910	Pathology/Experimental Pathology <ul style="list-style-type: none"> • Molecular Pathogenesis – NDSU 	41.9999	Science Technologies/Technicians, Other <ul style="list-style-type: none"> • Bio-fuels Technology – NDSCS • Biotechnology – NDSCS • Micromanufacturing Technology – NDSCS • Nanoscience Technology – NDSCS 	49.0108	Flight Instructor <ul style="list-style-type: none"> • Flight Education – UND
26.1001	Pharmacology <ul style="list-style-type: none"> • Pharmacology, Physiology and Therapeutics – UND 	43.0106	Forensic Science and Technology <ul style="list-style-type: none"> • Forensic Science – UND 		
26.1199	Biomathematics, Bioinformatics and Computational Biology, Other <ul style="list-style-type: none"> • Bioinformatics and Computational Biology – MiSU 	46.0303	Lineworker <ul style="list-style-type: none"> • Lineworker, Electrical – BSC 		
26.1201	Biotechnology <ul style="list-style-type: none"> • Biotechnology – NDSU 	47.0104	Computer Installation and Repair Technology/Technician <ul style="list-style-type: none"> • Simulator Maintenance Technician – LRSC 		
26.1305	Environmental Biology <ul style="list-style-type: none"> • Environmental & Conservation Sciences – NDSU 				
26.9999	Biological and Biomedical Sciences, Other <ul style="list-style-type: none"> • Science – FBCC • Tribal Environmental Science – UTTC 				

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<u>CIP</u>	<u>Prog.</u>	<u>Areas</u>	<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>
49.0199	Air Transportation, Other (some qualify)	<ul style="list-style-type: none"> • Space Studies – UND • Unmanned Aircraft Systems Operations – UND 	52.1201	Management Information Systems, General		
51.0904	Emergency Medical Technology/ Technician (EMT Paramedic)	<ul style="list-style-type: none"> • EMT Paramedic Technology – BSC • Paramedic (EMT) Technology – DCB, NDSCS 		<ul style="list-style-type: none"> • Information Technologies – LRSC • Information Technology Management – RC • Management Information Science – JC • Management Information Systems – MiSU, NDSU, UM 		
51.0907	Medical Radiologic Technology/Science - Radiation Therapist	<ul style="list-style-type: none"> • Radiologic Technology – JC, MiSU 	52.1299	Management Information Systems and Services, Other (some qualify)		
51.0908	Respiratory Care Therapy/Therapist	<ul style="list-style-type: none"> • Respiratory Care – NDSU, UM 		<ul style="list-style-type: none"> • Applied Business Information Technology – MiSU • Information Systems Management – RC • Knowledge Management – MiSU 		
51.0909	Surgical Technology/Technologist	<ul style="list-style-type: none"> • Surgical Technology – BSC 				
51.0911	Radiologic Technology/Science-Radiographer	<ul style="list-style-type: none"> • Radiologic Sciences – NDSU • Radiologic Technology – UM 				
51.1002	Cytotechnology/Cytotechnologist	<ul style="list-style-type: none"> • Cytotechnology – UND 				
51.1004	Clinical/Medical Laboratory Technician	<ul style="list-style-type: none"> • Medical Laboratory Technician – BSC, RC 				
51.1005	Clinical Laboratory Science/Medical Technology/Technologist	<ul style="list-style-type: none"> • Clinical Laboratory Science – MiSU, UM • Clinical Laboratory Science Management – UND • CLS Clinical Chemistry/Urinalysis – UND • CLS Hematology/Homeostasis – UND • CLS Immunohematology – UND • CLS Microbiology – UND • Medical Laboratory Science – MaSU, NDSU, UND • Medical Technology – JC 				
51.1099	Clinical/Medical Laboratory Science and Allied Professions, Other	<ul style="list-style-type: none"> • Phlebotomy Technician – BSC 				
52.0209	Transportation Mobility Management	<ul style="list-style-type: none"> • Supply Chain Management – BSC • Transportation & Logistics – NDSU • Transportation and Urban Systems – NDSU 				
52.1201	Management Information Systems, General	<ul style="list-style-type: none"> • Information Systems – MiSU 				

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North Dakota University System - Table 2. STEM Job Occupations and Codes

A degree from Table 1 is required for Table 2 occupations to qualify

(Derived from <http://online.onetcenter.org/crosswalk/>)

<u>SOC</u>	<u>Occupation</u>	<u>SOC</u>	<u>Occupation</u>	<u>SOC</u>	<u>Occupation</u>
11-3011	Administrative Services Managers	15-2041	Statisticians	19-1011	Animal Scientists
11-3021	Computer and Information Systems Managers	15-2091	Mathematical Technicians	19-1012	Food Scientists and Technologists
11-3051	Biofuels and Biomass Production Managers	15-2099	Mathematical Science Occupations, All Other	19-1013	Soil and Plant Scientists
11-3051	Geothermal Production Managers	17-1011	Architects, Except Landscape and Naval	19-1020	Biologists
11-3071	Transportation, Storage, and Distribution Managers	17-1012	Landscape Architects	19-1021	Biochemists and Biophysicists
11-9011	Nursery, Greenhouse, Crop and Livestock Managers	17-1021	Cartographers and Photogrammetrists	19-1022	Microbiologists
11-9012	Farmers and Ranchers	17-1022	Surveyors and Geodetic Surveyors	19-1023	Zoologists and Wildlife Biologists
11-9021	Construction Managers	17-2011	Aerospace Engineers	19-1029	Biological Scientists, All Other
11-9041	Biofuels/Biodiesel Technology and Product Development Managers	17-2021	Agricultural Engineers	19-1029	Geneticists and Biological Scientists, All Other
11-9041	Engineering Managers	17-2041	Chemical Engineers	19-1029	Molecular and Cellular Biologists
11-9121	Natural Sciences Managers	17-2051	Civil Engineers	19-1031	Soil and Water Conservationists, Park Naturalists and Range Managers
11-9199	Brownfield Redevelopment Specialists and Site Managers	17-2061	Computer Hardware Engineers	19-1032	Foresters
11-9199	Managers, All Other	17-2071	Electrical Engineers	19-1042	Medical Scientists, Except Epidemiologists
13-1051	Cost Estimators	17-2072	Electronics Engineers, Except Computer	19-1099	Life Scientists, All Other
13-1081	Logisticians and Logistics Engineers and Analysts	17-2072	Radio Frequency Identification Device Specialists	19-2012	Physicists
13-1199	Energy Auditors	17-2081	Environmental Engineers	19-2021	Atmospheric and Space Scientists
13-1199	Sustainability Specialists	17-2111	Industrial Safety and Health, Fire-Prevention and Protection, and Product Safety Engineers	19-2031	Chemists
15-1011	Computer and Information Scientists, Research	17-2112	Human Factors Engineers and Ergonomists	19-2041	Climate Change Analysts
15-1021	Computer Programmers	17-2112	Industrial Engineers	19-2041	Environmental Restoration Planners
15-1031	Computer Software Engineers, Applications	17-2131	Materials Engineers	19-2041	Environmental Scientists and Specialists, Including Health
15-1032	Computer Software Engineers, Systems Software	17-2141	Mechanical, Fuel Cell, and Automotive Engineers	19-2041	Industrial Ecologists
15-1051	Computer Systems Analysts	17-2171	Petroleum Engineers	19-2042	Geoscientists, Except Hydrologists and Geographers
15-1061	Database Administrators	17-2199	Biochemical Engineers	19-2043	Hydrologists
15-1071	Computer Security Specialists	17-2199	Engineers, All Other	19-2099	Remote Sensing Scientists and Technologists
15-1081	Network Systems and Data Communications Analysts	17-2199	Manufacturing Engineers	19-3022	Survey Researchers
15-1081	Telecommunications Specialists	17-2199	Mechatronics, Microsystems, Energy, and Robotics Engineers	19-3039	Psychologists, All Other
15-1099	Business Intelligence Analysts	17-2199	Mechatronics, Microsystems, Wind Energy, and Solar Energy Systems Engineers	19-3099	Social Scientists and Related Workers, All Other
15-1099	Computer Specialists, All Other	17-2199	Validation, Manufacturing, Microsystems and All Other Engineers	19-3099	Transportation Planners
15-1099	Computer Systems Engineers/Architects	17-3022	Civil Engineering Technicians	19-4011	Agricultural and Food Science Technicians
15-1099	Document Management Specialists	17-3023	Electrical and Electronics Engineering Technicians	19-4031	Chemical Technicians
15-1099	Electronic Commerce Specialists	17-3024	Electro-Mechanical Technicians	19-4041	Geological Sample Test Technicians
15-1099	Geographic Information Systems Technicians	17-3025	Environmental Engineering Technicians	19-4041	Geophysical Data Technicians
15-1099	Geospatial Information Scientists and Technologists	17-3026	Industrial Engineering Technicians	19-4051	Nuclear Equipment Operation and Monitoring Technicians
15-1099	Information Technology Project Managers	17-3029	Electrical and Electronics Engineering Technologists	19-4091	Environmental Science and Protection Technicians, Including H
15-1099	Network Designers	17-3029	Engineering Technicians, Except Drafters, All Other	19-4092	Forensic Science Technicians
15-1099	Software Quality Assurance Engineers and Testers	17-3029	Fuel Cell Technicians	19-4093	Forest and Conservation Technicians
15-1099	Web Developers	17-3029	Industrial Engineering Technologists	19-4099	Life, Physical, and Social Science Technicians, All Other
15-1099	Web Developers and Administrators	17-3029	Manufacturing Engineering and Production Technologists & Technicians	19-4099	Quality Control Analysts
15-1152	Computer Network Support Specialists	17-3029	Nanotechnology Engineering Technologists and Technicians	19-4099	Remote Sensing Technicians
15-2011	Actuary	17-3029	Nanotechnology Engineering Technologists and Technicians	25-1021	Computer Science Teachers, Postsecondary
15-2021	Mathematicians	17-3031	Surveying and Mapping Technicians	25-1022	Mathematical Science Teachers, Postsecondary

<u>SOC</u>	<u>Occupation</u>
25-1031	Architecture Teachers, Postsecondary
25-1032	Engineering Teachers, Postsecondary
25-1041	Agricultural Sciences Teachers, Postsecondary
25-1042	Biological Science Teachers, Postsecondary
25-1043	Forestry and Conservation Science Teachers, Postsecondary
25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary
25-1052	Chemistry Teachers, Postsecondary
25-1053	Environmental Science Teachers, Postsecondary
25-1054	Physics Teachers, Postsecondary
25-1071	Health Specialties Teachers, Postsecondary
25-1081	Education Teachers, Postsecondary
25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary
25-1194	Vocational Education Teachers, Postsecondary
25-2022	Middle School Teachers, Except Special and Vocational Education
25-2023	Vocational Education Teachers, Middle School
25-2031	Secondary School Teachers, Except Special and Vocational Education
25-2032	Vocational Education Teachers, Secondary School
25-9011	Audio-Visual Collections Specialists
25-9031	Instructional Coordinators
25-9031	Instructional Designers and Technologists
27-1014	Multi-Media Artists and Animators
27-1024	Graphic Designers
29-1124	Radiation Therapists
29-1126	Respiratory Therapists
29-2011	Medical and Clinical Laboratory Technologists
29-2012	Medical and Clinical Laboratory Technicians
29-2032	Diagnostic Medical Sonographers
29-2034	Radiologic Technologists and Technicians
29-2041	Emergency Medical Technicians and Paramedics
29-2054	Respiratory Therapy Technicians
29-2055	Surgical Technologists
29-9011	Occupational Health and Safety Specialists
33-3031	Fish and Game Wardens
43-9011	Computer Operators
45-1011	First-Line Supervisors/Managers of Agricultural Crop and Horticultural Workers
45-1011	First-Line Supervisors/Managers of Animal Husbandry and Animal Care Workers
45-2011	Agricultural Inspectors
45-4011	Forest and Conservation Workers
47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers
47-1011	Solar Energy Installation Managers
47-4011	Construction and Building Inspectors
47-4021	Elevator Installers and Repairers

<u>SOC</u>	<u>Occupation</u>
47-4099	Solar Photovoltaic Installers
47-4099	Solar Thermal and Weatherization Installers and Technicians
49-1011	First-line Supervisors/Managers of Mechanics, Installers & Repairers
49-2011	Computer, Automated Teller, and Office Machine Repairers
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles
49-3011	Aircraft Mechanics and Service Technicians
49-3023	Automotive Service Technicians and Mechanics
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists
49-3041	Farm Equipment Mechanics
49-3042	Mobile Heavy Equipment Mechanics, Except Engines
49-3051	Motorboat Mechanics
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics
49-3092	Recreational Vehicle Service Technicians
49-9011	Mechanical Door Repairers
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
49-9041	Industrial Machinery Mechanics
49-9043	Maintenance Workers, Machinery
49-9044	Millwrights
49-9045	Refractory Materials Repairers, Except Brickmasons
49-9051	Electrical Power-Line Installers and Repairers
49-9069	Precision Instrument and Equipment Repairers, All Other
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers
49-9098	Helpers—Installation, Maintenance, and Repair Workers
51-2023	Electromechanical Equipment Assemblers
51-2031	Engine and Other Machine Assemblers
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders
51-3092	Food Batchmakers
51-3093	Food Cooking Machine Operators and Tenders
51-4012	Numerical Tool and Process Control Programmers
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic
51-4041	Machinists

<u>SOC</u>	<u>Occupation</u>
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal & Plastic
51-4121	Welders, Cutters, Welder Fitters, Solderers, and Brazers
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic
51-4192	Lay-Out Workers, Metal and Plastic
51-4199	Metal Workers and Plastic Workers, All Others
51-6062	Textile Cutting Machine Setters, Operators, and Tenders
51-6063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders
51-6064	Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders
51-8031	Water and Liquid Waste Treatment Plant and System Operators
51-8099	Hydroelectric Plant Technicians
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders
53-1011	Aircraft Cargo Handling Supervisors
53-2011	Airline Pilots, Copilots, and Flight Engineers
53-2012	Commercial Pilots
53-2021	Air Traffic Controllers
53-2022	Airfield Operations Specialists
53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians



INFORMATION TECHNOLOGY COUNCIL
OF NORTH DAKOTA

#2
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Testimony of Deana Wiese
Executive Director
Information Technology Council of North Dakota

In Opposition to HB 1331
February 6, 2013

Chairman Nathe and members of the House Education Committee:

My name is Deana Wiese, and I am the executive director of the Information Technology Council of North Dakota (ITCND). I am here today in opposition to HB 1331, which revises the eligibility for the Science, Technology, Engineering and Math (STEM) Occupations Loan Forgiveness Program, which we see as a successful tool for encouraging students to pursue STEM-related degrees and ultimately be employed in IT careers in North Dakota.

ITCND was created in 2000 by North Dakota business, government and education leaders with the mission of actively encouraging the use, growth and development of information technology in North Dakota. Today, ITCND has nearly 100 member organizations, with representatives from both the public and private sector.

Addressing workforce needs is a top priority for ITCND as North Dakota's IT industry is expanding rapidly. Job Service North Dakota data shows that North Dakota has seen an increase of more than 50 percent in IT occupations over the past decade and is projecting a 20 percent increase for the next decade. Job growth in North Dakota's IT industry has more than doubled that of the nation. A shortage of skilled workforce is a limiting factor for technology-based industry growth. The occupations with the greatest projected growth in North Dakota are computer support specialists, software developers, and network and computer systems administrators. Employer qualifications for all of these occupations include a STEM-related degree. Therefore, ITCND does not support the removal of the STEM-related degree requirement for eligibility of the loan forgiveness program.

The number of post-secondary graduates with IT-related degrees is not coming close to meeting North Dakota IT workforce needs. According to Job Service North Dakota, currently

there are more than 350 high-wage, high-tech job openings in North Dakota. In 2010-11, 340 students graduated from North Dakota colleges and universities with an IT-related degree. Of those 340 approximately 30-40 percent leave the state for employment.

These numbers illustrate the dire need for an increase in the number of students pursuing STEM-related degrees. ITCND recognized its future workforce challenges several years ago and developed the IT Career Awareness Program. The purpose of the program is informing students, parents and educators of IT career opportunities in North Dakota and encouraging students to enroll in IT-related classes and degree programs at the secondary and post-secondary education levels. The program is now in its fourth year of implementation and it is working. In 2012, the enrollment in high school IT programs increased 47 percent over 2011 enrollment.

This bill would be counterproductive to the efforts that have been initiated through ITCND to increase the number of students pursuing IT degrees. We understand the rationale behind the bill in making additional individuals eligible. However, the current list of qualifying degrees is extensive as it includes more than 130 degree program areas. I've attached this list. Also, according the North Dakota University System, during the 2011-12 program year, the maximum amount of eligible recipients were funded. It is likely the program will continue to be more and more competitive in the coming years. Increasing eligibility will decrease the opportunity for those meeting the current criteria of having both a STEM degree and being employed in a STEM-related career, both of which we feel are important.

Additionally, IT companies and IT departments use this program as a tool to recruit out-of-state employees. According to the North Dakota University System, for the past three funding cycles (2009-10, 2010-11, 2011-12), nine to 11 percent of the recipients have received STEM degrees out-of-state and have worked in a STEM-related career in North Dakota for more than a year. This equates to 60-90 recipients, who received their degrees out of state, but are now living and working in North Dakota.

We have appreciated your past support of the STEM Occupations Loan Forgiveness Program, and would encourage a do not pass recommendation on HB 1331. It is important to the IT industry that the current eligibility requirements remain intact.

North Dakota University System - Table 1 STEM Program Areas and Codes

List of Active Programs 2011

(Derived from 2000 Draft CIP's, United States Department of Education)

<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>
01.0201	Agricultural Mechanization, General	04.0201	Architecture	11.0901	Computer Systems Networking and Telecommunications
	• Agricultural Systems Management – NDSU		• Architecture – NDSU		• Computer Applications – CCCC
01.0205	Agricultural Mechanics and Equipment/Machine Technology	04.0401	Environmental Design/Architecture		• Computer Support Specialist – BSC
	• John Deere Technology – NDSCS		• Environmental Design – NDSU		• Information Technology – DCB
01.0401	Agricultural and Food Products Processing	04.0601	Landscape Architecture		• Microsoft Certified Network Administrator – FBCC
	• Cereal Science – NDSU		• Landscape Architecture – NDSU	11.1002	System, Networking, and LAN/WAN Management/Information Systems
01.0901	Animal Sciences, General	11.0101	Computer and Information Sciences, General		• Information Technology – WSC
	• Animal Sciences – NDSU		• Computer Information Specialist – FBCC	11.1004	Web/Multimedia Management and Webmaster
01.1001	Food Science		• Computer Information Systems – MaSU, NDSCS, UM, VCSU		• Information Technology - Web Master – DCB
	• Food Science – NDSU		• Computer Science – DSU, JC, MiSU, UND	11.9999	Computer and Information Sciences and Support Services, Other
01.1102	Agronomy and Crop Science	11.0103	Information Technology		• Computer Information System (BAS) – MaSU
	• Plant Sciences – NDSU		• Computer Information Technology – UTTC		• Computer Tech Support Specialist – TMCC
01.1103	Horticultural Science		• Enterprise Application – VCSU		• Information Technology - Web Design – DCB
	• Horticulture – NDSU		• Information Technology – JC, SBC	13.0501	Educational/Instructional Media Design
01.1105	Plant Protection and Integrated Pest Management	11.0201	Computer Programming/Programmer, General		• Instructional Design & Technology – UND
	• Plant Protection – NDSU (t)		• Computer Science Basic Programming – MiSU	13.1309	Technology Teacher Education/ Industrial Arts Teacher Education
01.1201	Soil Science and Agronomy, General		• Software Systems Design – RC		• Education – VCSU
	• Soil Science – NDSU	11.0301	Data Processing and Data Processing Technology/Technician		• Technology Education – DSU, VCSU
03.0101	Natural Resources/Conservation, General		• Computer Technology Management – DSU	13.1311	Mathematics Teacher Education
	• Environmental Technology-Natural Resource Management – DCB		• Information Processing – WSC		• Elementary Education/Mathematics – UND
	• Natural Resource Management – SBC		• Information Technology – MaSU		• Mathematics Education – DSU, JC, MaSU, MiSU, VCSU, UM
03.0103	Environmental Studies	11.0401	Information Science/Studies	13.1316	Science Teacher Education/General Science Teacher Education
	• Earth System Science and Policy – UND		• Information Technology – UM		• Composite Science Education – VCSU (t)
	• Environmental Science – SBC		• Virtual Business – MiSU		• Comprehensive Science Education – NDSU
	• Environmental Studies – UND	11.0501	Computer Systems Analysis/Analyst		• Earth Science Education – MiSU, NDSU
	• Studies in Community and Environment – MiSU		• Information Systems – UND		• Physical Science Education – MiSU
03.0104	Environmental Science	11.0701	Computer Science		• Science Education – MiSU, UND
	• Environmental Science – DSU, FBCC		• Computer Science – NDSU		• Science Teacher Education – DSU
03.0201	Natural Resources Management and Policy		• Scientific Computing – UND		• Secondary Science – TMCC
	• Natural Resources Management – CCCC, NDSU	11.0801	Web Page, Digital/Multimedia and Information Resources Design		• Secondary Science Education – SBC
03.0508	Urban Forestry		• Multimedia Technologies – RC	13.1319	Technical Teacher Education
	• Arboriculture and Urban Forestry – DCB		• Web Development – MiSU		• Career and Technical Education – UND (t), VCSU
03.0601	Wildlife, Fish and Wildlands Science and Management		• Web Page Development and Design – BSC		
	• Fisheries and Wildlife Sciences – VCSU				
	• Wildlife and Fisheries Technology – DCB				

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(t) Indicates program that has been terminated.

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<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>
13.1322	Biology Teacher Education <ul style="list-style-type: none"> • Biological Sciences Education – NDSU • Biology Education – DSU, MiSU, UM • Biology Teacher Education – JC • Composite Biology Education – MaSU, VCSU 	14.3501	Industrial Engineering <ul style="list-style-type: none"> • Industrial & Manufacturing Engr – NDSU • Industrial Engineering & Management – NDSU 	15.0506	Water Quality and Wastewater Treatment Management/Recycling Technology/Technician <ul style="list-style-type: none"> • Environmental Technology - Water Management • Water and Wastewater Technology – BSC • Water Quality Technology – DCB (t)
13.1323	Chemistry Teacher Education <ul style="list-style-type: none"> • Chemistry Education – DSU, JC, MiSU, NDSU • Composite Chemistry Education – MaSU, VCSU 	14.3601	Manufacturing Engineering <ul style="list-style-type: none"> • Manufacturing Engineering – NDSU 	15.0507	Environmental Engineering Technology/Environmental Technology <ul style="list-style-type: none"> • Environmental Technology-Laboratory & Field Technology – DCB
13.1329	Physics Teacher Education <ul style="list-style-type: none"> • Composite Physical Science – MaSU (t) • Physics Education – MiSU, NDSU 	14.3801	Surveying Engineering <ul style="list-style-type: none"> • Environmental Technology-Geographic Information Systems – DCB 	15.0599	Environmental Control Technologies/Technicians, Control <ul style="list-style-type: none"> • Renewable Generation Technology – BSC
14.0101	Engineering, General <ul style="list-style-type: none"> • Engineering – NDSU, UND • Engineering Science – UM 	14.9999	Engineering, Other <ul style="list-style-type: none"> • Sustainable Energy Engineering – UND 	15.0612	Industrial Technology/Technician <ul style="list-style-type: none"> • Industrial Technology – UND • Process Plant Technology – BSC, TMCC
14.0301	Agricultural Engineering <ul style="list-style-type: none"> • Agricultural & Biosystems Engineering – NDSU 	15.0000	Engineering Technology <ul style="list-style-type: none"> • Engineering Technology – BSC 	15.0613	Manufacturing Engineering Technology/Technician <ul style="list-style-type: none"> • Automated Manufacturing Technician – NDSCS
14.0701	Chemical Engineering <ul style="list-style-type: none"> • Chemical Engineering – UND 	15.0101	Architectural Engineering Technology/Technician <ul style="list-style-type: none"> • Architectural Drafting & Estimating Technology – NDSCS 	15.0699	Industrial Production Technologies/Technicians, Other <ul style="list-style-type: none"> • Power Plant Technology – BSC
14.0801	Civil Engineering, General <ul style="list-style-type: none"> • Civil Engineering – NDSU, UND 	15.0201	Civil Engineering Technology/Technician <ul style="list-style-type: none"> • Civil Engineering & Surveying Technology – NDSCS 	15.0701	Occupational Safety and Health Technology/Technician <ul style="list-style-type: none"> • Occupational Safety & Environmental Health – UND
14.0901	Computer Engineering, General <ul style="list-style-type: none"> • Computer Engineering – NDSU 	15.0303	Electrical, Electronic and Communications Engineering Technology/Technician <ul style="list-style-type: none"> • Electric Power Technology – BSC • Electrical Transmission Systems Technology – BSC • Electronics Technology – BSC • Electronics/Telecommunications Technology – BSC 	15.0903	Petroleum Technology/Technician <ul style="list-style-type: none"> • Petroleum Engineering Technology – BSC • Petroleum Production Technology – BSC, WSC
14.0903	Computer Software Engineering <ul style="list-style-type: none"> • Software Engr – NDSU 	15.0399	Electrical and Electronic Engineering Technologies/Technicians <ul style="list-style-type: none"> • Electrical Technology – NDSCS • Electronic Technology – NDSCS (t) • Wind Energy Technician – LRSC 	15.1001	Construction Engineering Technology/Technician <ul style="list-style-type: none"> • Construction Mgmt Tech – NDSCS
14.1001	Electrical and Electronics Engineering <ul style="list-style-type: none"> • Electrical & Comp Engr – NDSU • Electrical Engineering – NDSU, UND 	15.0499	Electromechanical & Instrumentation and Maintenance Technologies/Technicians, Other <ul style="list-style-type: none"> • Instrumentation and Control Technologies – BSC 	15.1102	Surveying Technology/Surveying <ul style="list-style-type: none"> • Geographic Information System Technician – BS
14.1401	Environmental/Environmental Health Engineering <ul style="list-style-type: none"> • Environmental Engineering – NDSU • Environmental Geoscience – UND • Interdisciplinary Environmental Engineering (Post Bach. Cert.) – UND 	15.0501	Heating, Ventilation, Air Conditioning and Refrigeration Engineering Technology/Technician (ACH/ACR/ACHR/HRAC/HVAC/AC Technology) <ul style="list-style-type: none"> • Heating, Ventilating, Air Conditioning & Refrigeration Technology – NDSCS 	15.1401	Nuclear Engineering Technology/Technician <ul style="list-style-type: none"> • Nuclear Power Technology – BSC
14.1801	Materials Engineering <ul style="list-style-type: none"> • Materials & Nanotechnology – NDSU 	15.0503	Energy Management and Systems Technology/Technician <ul style="list-style-type: none"> • Energy Auditor Program – UTTC • Energy Technician – SBC 	15.1601	Nanotechnology <ul style="list-style-type: none"> • Nanoscience Technology – NDSCS
14.1901	Mechanical Engineering <ul style="list-style-type: none"> • Mechanical Engineering – NDSU, UND 			15.9999	Engineering Technologies and Engineering Related Other <ul style="list-style-type: none"> • Energy Technology – FBCC
14.2501	Petroleum Engineering <ul style="list-style-type: none"> • Petroleum Engineering – UND 			26.0101	Biology/Biological Sciences, General <ul style="list-style-type: none"> • Biological Sciences – NDSU • Biology – DSU, JC, MaSU, MiSU, NDSU, UM, VCSU • Biology/Pre-Health – UND
14.3301	Construction Engineering <ul style="list-style-type: none"> • Construction Engineering – NDSU 			26.0202	Biochemistry <ul style="list-style-type: none"> • Biochemistry – JC, NDSU, UND

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<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>	<u>CIP</u>	<u>Program Areas</u>
26.0204	Molecular Biology <ul style="list-style-type: none"> • Molecular and Integrative Biology – UND 	27.0101	Mathematics, General <ul style="list-style-type: none"> • Mathematics – DSU, FBCC, JC, MaSU, MiSU, NDSU, UM, UND, VCSU 	47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician <ul style="list-style-type: none"> • Heating, Ventilation and Air Conditioning – BSC • Mechanical Systems – NDSCS • Plumbing – FBCC
26.0210	Biochemistry and Molecular Biology <ul style="list-style-type: none"> • Biochemistry & Molecular Biology – NDSU 	27.0301	Applied Mathematics, General <ul style="list-style-type: none"> • Applied Math, General – JC 	47.0303	Industrial Mechanics and Maintenance Technology <ul style="list-style-type: none"> • Mechanical Maintenance Technology – BSC
26.0301	Botany/Plant Biology <ul style="list-style-type: none"> • Botany – NDSU 	27.0501	Statistics, General <ul style="list-style-type: none"> • Applied Statistics – NDSU • Statistics – NDSU 	47.0604	Automobile/Automotive Mechanics Technology/Technician <ul style="list-style-type: none"> • Automotive Service Technology – UTTC • Automotive Technology – BSC, CCCC, LRSC, NWSU
26.0305	Plant Pathology/Phytopathology <ul style="list-style-type: none"> • Plant Pathology – NDSU 	30.0101	Biological and Physical Sciences <ul style="list-style-type: none"> • Math/Science Composite – UM 	47.0605	Diesel Mechanics Technology/Technician <ul style="list-style-type: none"> • Caterpillar Dealer Service Technician – NDSCS • Diesel Technology – LRSC, NDSCS, WSC
26.0403	Anatomy <ul style="list-style-type: none"> • Anatomy – UND 	30.1101	Multi/Interdisciplinary Studies <ul style="list-style-type: none"> • Gerontology – NDSU 	47.0606	Small Engine Mechanics and Repair Technology/Technician <ul style="list-style-type: none"> • Recreational Engines Technology – NDSCS
26.0406	Cell/Cellular and Molecular Biology <ul style="list-style-type: none"> • Cellular & Molecular Biology – NDSU 	40.0101	Physical Sciences <ul style="list-style-type: none"> • Physical Science – MiSU, UND • Physical Science Education – MaSU 	47.0699	Vehicle Maintenance and Repair Technologies, Other (qualify) <ul style="list-style-type: none"> • Automotive & Diesel Master Technician – NDSCS
26.0502	Microbiology, General <ul style="list-style-type: none"> • Microbiology – NDSU 	40.0401	Atmospheric Sciences and Meteorology, General <ul style="list-style-type: none"> • Atmospheric Sciences – UND • Atmospheric Studies – UND 	48.0501	Machine Tool Technology/Machinist <ul style="list-style-type: none"> • Machinist and Toolmaker – NDSCS
26.0503	Medical Microbiology and Bacteriology <ul style="list-style-type: none"> • Microbiology – UND 	40.0501	Chemistry, General <ul style="list-style-type: none"> • Chemistry – DSU, JC, MaSU, MiSU, NDSU, UND, VCSU 	48.0508	Welding Technology/Welder <ul style="list-style-type: none"> • Welding – BSC • Welding & Basic Machining – LRSC • Welding Technology – NDSCS, WSC
26.0701	Zoology/Animal Biology <ul style="list-style-type: none"> • Zoology – NDSU 	40.0507	Polymer Chemistry <ul style="list-style-type: none"> • Coatings & Polymeric Materials – NDSU 	49.0101	Aeronautics/Aviation/Aerospace Science and Technology, General <ul style="list-style-type: none"> • Aeronautical Studies – UND (t) • Aviation – UND
26.0702	Entomology <ul style="list-style-type: none"> • Entomology – NDSU 	40.0601	Geology/Earth Science, General <ul style="list-style-type: none"> • Geology – MiSU, NDSU, UND 	49.0102	Airline/Commercial/Professional Pilot and Flight Crew, Other <ul style="list-style-type: none"> • Commercial Aviation – UND
26.0709	Wildlife Biology <ul style="list-style-type: none"> • Fisheries & Wildlife Biology – UND 	40.0801	Physics, General <ul style="list-style-type: none"> • Physics – MiSU, NDSU, UND 	49.0104	Aviation/Airway Management and Operations <ul style="list-style-type: none"> • Airport Management – UND • Aviation Management – UND • Aviation Technology Management – UND
26.0807	Genome Sciences/Genomics <ul style="list-style-type: none"> • Genomics and Bioinformatics – NDSU 	41.0301	Chemical Technology/Technician <ul style="list-style-type: none"> • Science Technology – NDSCS (t) 	49.0105	Air Traffic Controller <ul style="list-style-type: none"> • Air Traffic Control – UND
26.0910	Pathology/Experimental Pathology <ul style="list-style-type: none"> • Molecular Pathogenesis – NDSU 	41.9999	Science Technologies/Technicians, Other <ul style="list-style-type: none"> • Bio-fuels Technology – NDSCS • Biotechnology – NDSCS • Micromanufacturing Technology – NDSCS • Nanoscience Technology – NDSCS 	49.0108	Flight Instructor <ul style="list-style-type: none"> • Flight Education – UND
26.1001	Pharmacology <ul style="list-style-type: none"> • Pharmacology, Physiology and Therapeutics – UND 	43.0106	Forensic Science and Technology <ul style="list-style-type: none"> • Forensic Science – UND 		
26.1199	Biomathematics, Bioinformatics and Computational Biology, Other <ul style="list-style-type: none"> • Bioinformatics and Computational Biology – MiSU 	46.0303	Lineworker <ul style="list-style-type: none"> • Lineworker, Electrical – BSC 		
26.1201	Biotechnology <ul style="list-style-type: none"> • Biotechnology – NDSU 	47.0104	Computer Installation and Repair Technology/Technician <ul style="list-style-type: none"> • Simulator Maintenance Technician – LRSC 		
26.1305	Environmental Biology <ul style="list-style-type: none"> • Environmental & Conservation Sciences – NDSU 				
26.9999	Biological and Biomedical Sciences, Other <ul style="list-style-type: none"> • Science – FBCC • Tribal Environmental Science – UTTC 				

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<u>CIP</u>	<u>Program Areas</u>
49.0199	Air Transportation, Other (some qualify) <ul style="list-style-type: none"> • Space Studies – UND • Unmanned Aircraft Systems Operations – UND
51.0904	Emergency Medical Technology/ Technician (EMT Paramedic) <ul style="list-style-type: none"> • EMT Paramedic Technology – BSC • Paramedic (EMT) Technology – DCB, NDSUS
51.0907	Medical Radiologic Technology/Science - Radiation Therapist <ul style="list-style-type: none"> • Radiologic Technology – JC, MiSU
51.0908	Respiratory Care Therapy/Therapist <ul style="list-style-type: none"> • Respiratory Care – NDSU, UM
51.0909	Surgical Technology/Technologist <ul style="list-style-type: none"> • Surgical Technology – BSC
51.0911	Radiologic Technology/Science-Radiographer <ul style="list-style-type: none"> • Radiologic Sciences – NDSU • Radiologic Technology – UM
51.1002	Cytotechnology/Cytotechnologist <ul style="list-style-type: none"> • Cytotechnology – UND
51.1004	Clinical/Medical Laboratory Technician <ul style="list-style-type: none"> • Medical Laboratory Technician – BSC, RC
51.1005	Clinical Laboratory Science/Medical Technology/Technologist <ul style="list-style-type: none"> • Clinical Laboratory Science – MiSU, UM • Clinical Laboratory Science Management – UND • CLS Clinical Chemistry/Urinalysis – UND • CLS Hematology/Homeostasis – UND • CLS Immunohematology – UND • CLS Microbiology – UND • Medical Laboratory Science – MaSU, NDSU, UND • Medical Technology – JC
51.1099	Clinical/Medical Laboratory Science and Allied Professions, Other <ul style="list-style-type: none"> • Phlebotomy Technician – BSC
52.0209	Transportation Mobility Management <ul style="list-style-type: none"> • Supply Chain Management – BSC • Transportation & Logistics – NDSU • Transportation and Urban Systems – NDSU
52.1201	Management Information Systems, General <ul style="list-style-type: none"> • Information Systems – MiSU

<u>CIP</u>	<u>Program Areas</u>
52.1201	Management Information Systems, General <ul style="list-style-type: none"> • Information Technologies – LRSC • Information Technology Management – RC • Management Information Science – JC • Management Information Systems – MiSU, NDSU, UM
52.1299	Management Information Systems and Services, Other (some qualify) <ul style="list-style-type: none"> • Applied Business Information Technology – MiSU • Information Systems Management – RC • Knowledge Management – MiSU

<u>CIP</u>	<u>Program Areas</u>
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Rep. Melman

February 6, 2013

PROPOSED AMENDMENTS TO HB 1331

Page 1, line 10, remove the overstrike over "The board shall adopt"

Page 1, remove the overstrike over lines 11 through 13

Page 1, line 21, remove "located in this state"

Page 1, line 22, remove the overstrike over "at a board approved college"