College of Engineering Diploma Ceremony 2021

May 22, 2021 7:30pm – 9:30pm (Notre Dame Stadium)

Order of Diploma Ceremony

7:30 – **Victoria Goodrich**: *"Good evening and welcome to the College of Engineering 2021 Commencement Diploma Ceremony."*

"We will begin the ceremony with the Invocation, given by senior Mechanical Engineer, Michael Perez. Please stand."

Michael Perez: "*As we gather on this special day, we do so mindful of the abundant blessings you have given us. We give you thanks for the opportunity to explore new ideas, to make new friends, and to grow as human beings. We thank you for the faculty, students, and staff members who have worked tirelessly to make this day a reality. As we gather to mark the end of this chapter of life, we recognize your Grace in helping us use the lessons we have learned here for the good of all. May all that we have learned and experienced here guide and support our future endeavors. We ask this through Christ our Lord.*"

7:35 –**Victoria Goodrich**: (If needed: *Please be seated*) *Thank you, Michael, for that blessing of today's ceremony.*

Good Evening and welcome. My name is Victoria Goodrich. I am an Associate Teaching Professor in the Department of Chemical and

Biomolecular Engineering. It is my honor to serve as your host for today's diploma ceremony as we celebrate our newest graduates.

Joining me on the platform are members of the Dean's Office as well as the chairs for all 5 of our engineering departments and professors who will be reading the graduates' names. I will be introducing each of them throughout the ceremony as they take part in honoring our newest graduates.

Also joining us this evening are members of the College of Engineering faculty who have spent the last 4 years teaching, mentoring, and guiding these graduates. I ask them to please stand and be recognized.

Thank you (Applause) and please be seated.

At Notre Dame, we are fortunate to have excellent faculty. They are productive scholars who provide extensive amounts of service to our College, the University, and their professional disciplines. And of course, they provide outstanding leadership and teaching in the classroom.

Today, we have the distinction to honor a few of our faculty members with special awards that recognize their excellence specifically in undergraduate teaching.

As I introduce the names of the awardees, I ask them to <u>Please Stand</u>.

The College of Engineering Outstanding Teacher of the Year is awarded each spring to one faculty member based on engineering student nominations and votes. This year's awardee is:

Prof. David Richter, Civil / Environmental Engineering and Earth Sciences

Next, the Cathy F. Pieronek Women in Engineering Impact Award is awarded to a faculty or staff member who has made a dramatic positive impact on women's engineering experience through their service to the university.

This year's recipient is Dr. Jennifer Schaefer, Chemical and Biomolecular Engineering.

<u>The Reverend Edmund P. Joyce, CSC, Excellence in Undergraduate Teaching Award</u> recognizes faculty members who have had a profound influence on undergraduate students' learning experience, elevated students' intellectual engagement, and fostered students' ability to express themselves effectively within a disciplinary context. Faculty committees in each of the five colleges review peer and student nominations and select up to 20 awardees across the entire university each year. This year's recipients from the College of Engineering are:

-- Prof. Peter Bui, Computer Science and Engineering
-- Prof. Patrick Fay, Electrical Engineering
And
-- Prof. Michael Kitz, College of Engineering

Thank you (applause) and please be seated

Of course our faculty are only here to serve our amazing students. Next, we would also like to recognize a number of our highest academic achieving students in the college. Every year, the college selects one student in each degree program for the Reverend Thomas A. Steiner, CSC, Award. This award recognizes the highest level of academic excellence as well as dedication to engineering and an unswerving commitment to the common good. As I introduce this year's awardees, I would ask them to stand and be recognized.

Yi-Chung (Andrew) Chen, Aerospace Engineering
Mark LeGendre, Chemical and Biomolecular Engineering
Lily Polster, Civil Engineering
Emory Smith, Computer Engineering
Daniel Riehm, Computer Science
Abigail Martin, Environmental Engineering
Michael Perez, Mechanical Engineering
Jake Leporte, Electrical Engineering (unable to be with us tonight)

Thank you (applause) and please be seated

In addition, there are a number of awards presented by each department. All of our STUDENT Award recipients are listed in the university commencement program booklet. These exceptional student awardees will be recognized as they cross the stage to receive their diplomas.

[Optional Text: While we are only able to recognize a small number of our graduates with these awards, we would like to recognize all students receiving a degree for the amazing accomplishment of

completing a demanding and sometimes greuling engineering curriculum.]

Victoria Goodrich: *It is now my pleasure to introduce today's ceremony speaker.*

Patricia Culligan is the Matthew H. McCloskey Dean of the College of Engineering of the University of Notre Dame. Her research and teaching areas of expertise are in water resources and environmental engineering. She focuses on sustainable infrastructure, social networks, and the application of advanced measurement and sensing technologies to improve all aspects of environmental management.

Dean Culligan's work transcends a variety of other research fields, including urban design, policy, microbiology, ecology, and geochemistry. She has served on the National Academies Nuclear and Radiation Studies Board as well as on the board of Governors of the ASCE's Geo-Institute. She has also chaired the National Academies Standing Committee on Geological and Geotechnical Engineering.

Dean Culligan earned her undergraduate degree in Civil Engineering from University of Leeds and her doctorate in engineering from University of Cambridge.

Ladies and Gentlemen – Dean Culligan.

Patricia Culligan -- *Thank-you Professor Goodrich.*

And my own congratulations to the Class of 2021!

As the 18th Dean of the College of Engineering at Norte Dame, and the 4th Dean to hold the Title of the Matthew H. McCloskey Dean it is my pleasure to address you at this College of Engineering Diploma Ceremony– the first event of its kind in the known history of our College, among many of the first of its kind experiences we have all witnessed during this past 18 months.

I am going to start my address off with a quote by Lawrence Edward Page, Computer Scientist and Entrepreneur

It's often easy to make progress on mega-ambitious dreams, since no-one else is crazy enough to do it, you have little competition

Class of 2021 I hope you all have mega-ambitious dreams, because if there ever was a class that has proven itself capable of the resilience and fortitude needed to succeed under the most extra-ordinary of circumstances it is you.

You came back to a campus in August to find that being "Here" often meant not being together in your final senior year at Notre Dame. You got used to talking through masks, sitting six feet apart in classrooms and being constantly told "you're on mute" as you tried to make an important point, or even any point at all, on Zoom.

You sometimes found yourselves isolated from your families and support systems when you were in need of them, or they were in

need of you. And many of you had to make decisions about your future on the basis of virtual meetings and a handshake.

Yet you succeeded!

443 of you have earned a Notre Dame Engineering degree. And let's all admit that that is an impressive achievement under normal circumstances. Under these current circumstances it truly is remarkable.

Be proud of yourselves because we are very proud of you.

80% of you are putting your unique talents to use in Industry and Consulting. Some of you in traditional engineering industries, others in financial services, consumer facing product management, or government and public policy. Some of you are also supporting the Alliance for Catholic Education as Teaching Fellows.

10% of you are going onto graduate school in engineering, or in law, medicine, business, science or education.

And 10% of you are joining the Military or Public Service or a Non-Government organization.

As a class you are Pursuing opportunities across the country — from east coast D.C to west coast California, from northern Minnesota to southern Texas, to a myriad of destinations outside of the U.S.
The Notre Dame Engineering Class of 2021 is poised to make an impact across sectors, across the U.S and Across the Globe.

And now is a time, more than ever, that we need Notre Dame Engineers to make an impact.
We need engineers committed to putting their skills and knowledge to use for the good of everyone, and not just for the good of a few.
We need engineers who are not only willing to admit to inequities in our society, but are also willing to actively work to dismantle them.
We need engineers who are committed to caring for our common home, the one Planet Earth that we all share and where we all live.
And we need engineers who are dedicated to the service of those who are currently underserved.

We also need engineers who inspire by example, who have the courage to say "that is wrong" when everyone else is sitting silent, and who understand why the Joy of Living is a cross-cutting theme in the National Academy of Engineers 21st century goals for improving life on our planet.

You are all leaving our campus and our college with the problem solving and technical skills you need to succeed in your career. But you are also leaving with a Notre Dame education that gives you a unique ability to be a Force for Good in our World, and that is why I know you make an impact in creating a better future for all.
So, I am going to return to Larry Page's quote, and I am going to make a friendly amendment:

Class of 2021, make progress on your mega-ambitious dreams, since you are Notre Dame Engineered to do it, you have little competition

Whether your mega-ambitious dreams center around new technology breakthroughs or creating equitable technology access, whether they center around propelling clean energy solutions or cleaning up our oceans, whether they center around new modes for global communications or meeting the promise of global access to healthcare, or whether they center around something else – which might be very personal to you, know that whenever you achieve these dreams, the staff and the faculty of the College of Engineering will be here to celebrate with you.

The familiar and ubiquitous green floor dots and wall notices will likely be gone, but we will always be Here for you.

I graduated myself during a recession where double digit inflation was exacerbated by a global energy crisis. We newly minted alums celebrated the fact that some of us had jobs. However, the majority of us – including myself – did not. My fellow engineering class mates were my support at the time, and some have remained my support system over the following years. My eldest daughter is actually named for one of my closest engineering undergraduate friends

So, as you leave Here, remember to be There for each other, wherever There is for each and every one of you.

God Bless you class of 2021

8:00 – Victoria Goodrich: *Thank you, Dean Culligan.*

Next, we will admit all engineering graduates into the Order of the Engineer.

For those of you that are unaware of the Order of the Engineer, this is a practice similar to the Hippocratic Oath in medicine and reminds us of the responsibilities of our profession. The Order of the Engineer originated in Canada after a bridge collapsed in Quebec due to faulty engineering calculations, resulting in the death of 75 people. After that incident, a board of engineers developed this obligation to emphasize the ethical and moral standards for engineers and to support and welcome new engineers into the profession. By accepting this obligation today, our graduates "pledge to uphold the standards and dignity of the engineering profession and to serve humanity by making the best use of Earth's precious wealth."

In addition to the obligation, the Engineer's Ring, a stainless steel ring, worn on the pinky finger of your working hand, will now serve as a constant reminder of the obligation you recite today. If you have not already done so, please put your ring on now.

I would now like to invite Senior Associate Dean for Education and Undergraduate Programs, Yih-Fang Huang, to lead the Class of 2021 in taking the Obligation of the Order of the Engineer.

Yih-Fang Huang-- *Engineering Class of 2021. It is my honor to lead you in taking the oath and join the proud cadre of fellow working engineers. Graduates, please stand and raise your right hand and recite the oath with me*

"I am an Engineer. In my profession, I take deep pride. To it, I owe solemn obligations.
As an engineer, I pledge to practice integrity and fair dealing, tolerance and respect, and to uphold devotion to the standards and dignity of my profession. I will always be conscious that my skill

carries with it the obligation to serve humanity by making the best of the Earth's precious wealth.
As an engineer, I shall participate in none but honest enterprises. When needed, my skill and knowledge shall be given, without reservation, for the public good. In the performance of duty, and in fidelity to my profession, I shall give my utmost."

Congratulations on joining the order and please be seated.

Victoria Goodrich: *It is time to recognize the 2021 graduates of the College of Engineering. Graduates, at the appropriate time, your department chair will invite you to proceed to the stage and receive your diploma.*

At this time, I invite Dr. David Go, the Rooney Family Collegiate Professor and Aerospace and Mechanical Engineering Department Chair, to come to the podium to recognize the Aerospace and Mechanical Engineering graduates.

David Go -- *"Good evening and congratulations to all our graduates in the Department of Aerospace and Mechanical Engineering. As the largest department in the College of Engineering, we have 116 mechanical engineering and 25 aerospace engineering students graduating this year. Our students have excelled inside the classroom and out, with many leading our engineering clubs such as the ND Rocketry Team and eNable, many doing cutting-edge research with our outstanding faculty, and many more doing the wide number of extracurricular activities at Notre Dame that contribute to their education as a whole person. Our graduating class is exceptional, and despite numerous challenges, will be*

moving on to companies ranging from SpaceX and Ford to Procter & Gamble, to graduate schools as far away as Washington and Ireland, and entrepreneurial activities such as Venture for America. We are excited to send our graduates out into the world where they will make and move our future and truly be a 'Force for Good'. Will the 2021 aerospace engineering and mechanical engineering graduates please come forward as Professors Jing Wang and Bill Goodwine read your names."

Victoria Goodrich: *Next, I invite Dr. William Schneider, the Dorini Family Chair in Energy Studies and the Chemical and Biomolecular Engineering Department Chair to the podium to recognize the Chemical Engineering graduates.*

William Schneider -- *It's my honor to present to you the 80 graduates who make up the class of 2021 Chemical and Biomolecular Engineers. Chemical and Biomolecular Engineers use the principles of chemistry and biology to engineer the processes and products that we depend on every day, from objects as large and complex as a refinery to as small and complex as an engineered vaccine.*

No one would consider the CBE curriculum "easy" under any circumstances. But this particular group of graduates has faced challenges beyond those of any that precede them. They have met those challenges with exceptional resilience and determination. Their ability to persevere and even excel in the face of distanced, masked, and virtual learning in the classroom and laboratory has been an inspiration to us all. Most will go from here to be practicing engineers or to further advance their training in graduate or professional school. Whatever their path, they are exceptionally well

prepared to carry forward the proud tradition of ND CBE graduates: to be solvers of difficult problems, to do so with the utmost integrity and respect for all, and to make positive differences for the world.

Class of 2021 Chemical and Biomolecular Engineers, I invite you to come forward and accept your degree as your name is called by Prof. Merlin Bruening.

Victoria Goodrich: *I invite Dr. Diogo Bolster, incoming department chair for the Civil and Environmental Engineering and Earth Sciences Department to come to the podium to recognize the Civil and Environmental Engineering and Earth Sciences graduates.*

Diogo Bolster -- *Good evening everyone – I present to you our 55 graduating students, 38 in civil engineering and 17 in environmental engineering. Any of you following the news will know how important building a new and modern infrastructure is. Well these young men and women will be the generation that rethinks and rebuilds it all. And these young men and women will be the ones who make sure that the future is bright and sustainable as we jointly care for this planet, our common home. These graduates will work to build a world that they, their children and in turn their children can continue to flourish in.*

Civil and Environmental Engineering and Earth Science graduates, please come forward as Professor Amy Hixon reads your names.

Victoria Goodrich: *I would now like to invite Dr. Patrick Flynn, the Fritz Duda Family Professor of Engineering and Computer Science and Engineering Department Chair to the podium to recognize the Computer Science and Engineering graduates.*

Patrick Flynn -- *Good evening. The Department of Computer Science and Engineering is pleased to honor its 16 Computer Engineering and 120 Computer Science graduates tonight. In this senior year full of challenges to normal college life, these students have met these challenges with energy, focus, concern for others, and a sense of humor. Now, they graduate into a world full of opportunities for impactful and rewarding work and service, as part of an adult life full of joy and meaning. The ability of computing and communications technology to bring us together — not as a replacement for gathering in person, but to preserve and cherish our connections when we could not gather in person — has been vividly demonstrated to us all over the last 14 months. These graduates will be distinctive contributors in their upcoming roles in companies, service organizations, and as students seeking advanced degrees. Graduates, I expect you to engage your knowledge, skills, and big hearts in equal proportions as your journey begins.*

I call upon the candidates for the following two degrees to come forward and be recognized as Professors Ramzi Bualuan and Jane Cleland-Huang read your names: Bachelor of Science in Computer Engineering and Bachelor of Science in Computer Science.

Victoria Goodrich: *Finally, I invite Dr. Gregory Snider, the Electrical Engineering Department Chair to the podium to recognize the Electrical Engineering graduates.*

Gregory Snider -- *Good evening. As always, the best has been saved for last! This year there are 35 graduates of the Department of Electrical Engineering. The majority of our students will be joining companies representing a broad range of industries, including defense, medical, telecommunications, and power. About 25% of our graduates will be continuing their education, at universities such as Cornell University, University of Illinois, Ghent University, and even the University of Notre Dame. Finally, about 5% will be joining the military. I would like to invite the graduates in Electrical Engineering to come forward as Professor Ken Sauer, the Electrical Engineering teacher of the year, reads your names.*

Victoria Goodrich: *Congratulations graduates, and a heart-felt thank you to our Department Chairs for their outstanding leadership.*

Before finishing up this ceremony, I'd like to take a moment to thank those who worked so hard to make it happen. Please join me in also thanking

- *The Notre Dame Stadium staff for their support in the use of this iconic venue.*

- *And the staff of the College of Engineering, for their hard work in planning, supporting and executing today's diploma ceremony.*

College of Engineering Class of 2021, I now ask you to stand and turn towards our guests and take a moment to recognize your family,

friends, and others who have supported you during your educational journey. Thank you to all who have supported the College of Engineering students.

Victoria Goodrich: *As we close this ceremony, I ask everyone please rise for the Benediction by Associate Dean Ron Metoyer and then remain standing for the Alma Mater "Notre Dame, Our Mother"*

Ron Metoyer – *Almighty God, We ask you to send your Spirit upon our graduates as they and their families celebrate this important milestone. As their time at Notre Dame draws to a close, we thank you for the friends and memories that were made here and ask you to give them the grace to take the many lessons from this place out into the world. May the friendships they made here, help them to see the importance of human relationships. May the lessons they learned here, help them grow in patience and charity toward others. May the skills and talents they have gained here help them to improve the world around them. Bless these graduates and give them the grace to walk with faith, hope, and love, so that they may go out and live Fr. Sorin's dream of being a force for good in the world. Amen*

BAND PLAYS ALMA MATER (words / images displayed on JUMBOTRON)

Victoria Goodrich: *I again congratulate the College of Engineering Graduating Class of 2021 on a job well done! I ask that you please remain in your seats until the platform party clears the seating area.*

God bless all of you and GO IRISH!!!!

The Notre Dame Victory March is played.

Victoria will stay at the stage. When platform party clears the stage I will announce that all can leave.