HIGHER EDUCATION COORDINATING COMMISSION
3225 25th Street SE, Salem, OR 97302
www.oregon.gov/HigherEd

Docket Item:

University Program Approval: Oregon State University, Master of Science (M.S.), Master of Engineering (M. Eng.), and PhD degrees in Artificial Intelligence.

Summary:

Oregon State University proposes a new degree program leading to a M.S., M. Eng., and PhD degrees in Artificial Intelligence. The statewide Provosts' Council has unanimously recommended approval. Higher Education Coordinating Commission (HECC) staff completed a review of the proposed program. After analysis, HECC staff recommends approval of the program as proposed.

Staff Recommendation:

The HECC recommends the adoption of the following resolution:

RESOLVED, that the Higher Education Coordinating Commission approve the following program:

M.S., M. Eng., and PhD degrees in Artificial Intelligence at Oregon State University

Oregon State University

HECC Docket Submission

Oregon State University seeks the Oregon Higher Education Coordinating Commission approval to offer an instructional program leading to a Master of Science (MS) or Master of Engineering (MEng) or Doctorate (PhD) in Artificial Intelligence.

Program Description and Justification

1. Identify the institution, degree, and title of the program.

   Oregon State University is proposing to offer a new Master of Science (MS), Master of Engineering (MEng), and Doctorate (PhD) in Artificial Intelligence. The program will be located in the College of Engineering, School of Electrical Engineering and Computer Science.

2. Describe the purpose and relationship of the proposed program to the institution's mission and strategic plan.

   AI is historically rooted in the discipline of Computer Science. It is connected to a number of different disciplines ranging from philosophy to biology and from statistics to robotics. The interdisciplinary AI degree seeks to bridge this broad spectrum of disciplines by offering a variety of different paths through the intellectual landscape, while at the same time offering a coherent body of core knowledge that is rooted in a computational perspective and informs the other fields. Thus, the program offers excellent opportunities for innovative education and cross-disciplinary collaboration.

   AI is arguably the most promising technology to spur economic prosperity in the next few decades by opening new markets such as advanced diagnostics, material discovery, computer-assisted tutoring, automated trading, and machine translation, and supporting established markets such as manufacturing, logistics, transportation, business and agriculture. In the Emerging Technologies report that the World Economic Forum released in 2018, AI was mentioned in 3 of the top 10 technologies. Many of the current AI faculty have worked on a range of old and new applications including medical diagnosis, clean energy, logistics, machine translation and smart agriculture.

3. What evidence of need does the institution have for the program?

   With recent advances in AI from conversational agents to self-driving cars, AI is now a trillion-dollar industry and is expected to quadruple in the next 3 years. The McKinsey report on the economic impact of AI predicts that 70% of companies will

adopt at least 1 type of AI technology by 2030, resulting in an additional global economic activity of 13 trillion dollars (https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-ai-frontier-modeling-the-impact-of-ai-on-the-world-economy

4. Are there similar programs in the state? If so, how does the proposed program supplement, complement, or collaborate with those programs?

   There is no similar Oregon public university program in AI. Indeed, there is no similar program in the country that offers M.S. and M.Eng. and Ph.D. degrees in AI.

All appropriate University committees and the Statewide Provosts Council have approved the proposed program. The Oregon State University Board of Trustees approved the program on August 14, 2020.

Recommendation to the Commission

The Statewide Provosts Council recommends that the Oregon Higher Education Coordinating Commission authorize Oregon State University to establish an instructional program leading to a Master of Science (MS) or Master of Engineering (MEng) or Doctorate (PhD) in Artificial Intelligence effective Winter 2021.

HIGHER EDUCATION COORDINATING COMMISSION

Proposal for a New Academic Program

Institution: Oregon State University

College/School: College of Engineering/School of Electrical Engineering and Computer Science

Department/Program Name: Artificial Intelligence

Degree and Program Title: M.S., M.Eng. and Ph.D. degrees in Artificial Intelligence

1. Program Description

a. Proposed Classification of Instructional Programs (CIP) number. 11.0102

> CIP #: 11.0102
>
> Title: Artificial Intelligence
>
> A program that focuses on the symbolic inference, representation, and simulation by computers and software of human learning and reasoning processes and capabilities, and the computer modeling of human motor control and motion. Includes instruction in computing theory, cybernetics, human factors, natural language processing, and applicable aspects of engineering, technology, and specific end-use applications.

b. Brief overview (1-2 paragraphs) of the proposed program, including its disciplinary foundations and connections; program objectives; programmatic focus; degree, certificate, minor, and concentrations offered.

Artificial Intelligence (AI) is the study of intelligent artifacts and the principles behind their design, construction, and analysis. AI has become a trillion-dollar industry with applications spanning a wide spectrum including search engines, recommender systems, face recognition, visual object recognition, speech recognition, natural language translation, cybersecurity, self-driving cars, and many others. AI is now indispensable to most industries including manufacturing, healthcare, defense, entertainment, and consumer products. The advances in AI have especially dominated the news in the last 10 years and opened up numerous opportunities to improve human welfare which were unimaginable only a few years ago.

The objective of the proposed AI program is to train Ph.D. and Master students in the core topics of AI and offer a large set of electives that gives them opportunities to specialize in different sub-areas and applications of AI.

c. Course of study – proposed curriculum, including course numbers, titles, and credit hours.

The AI program will build on the courses currently offered in Computer Science, Statistics, Electrical Engineering, Robotics, and other related programs at OSU, but also significantly adds to the curriculum with new advanced courses. The academic home of the new degrees will be the School of Electrical Engineering and Computer Science (EECS) at Oregon State University (OSU). The AI curriculum is designed to be highly flexible to accommodate students with different backgrounds and research interests. We currently offer a wide variety of courses which satisfy the core requirements of the AI degrees. We have tentative titles for other courses we would like to offer as we recruit more faculty members to support the new degrees. The students in the AI program will satisfy all the university requirements and will conform to the rules and regulations (e.g., qualifying exam timing, structure) of the academic home (EECS).

Interdisciplinary Advisory Committee: To support the interdisciplinary aspects of the program, we will form an Interdisciplinary Advisory Committee that consists of faculty members who have

research experience in related disciplines. The committee will be tasked with three functions: (a) Recommending rules, policies and requirements to support interdisciplinary students (b) Approving courses from different departments to be taken by the AI students and (c) Approving professors who can advise AI students at different levels.

The proposed requirements of different AI degrees are as follows. Other than 4 core AI courses which are expected to be from a large designated list, the remaining courses can be from any relevant graduate program subject to the approval of the committee. In addition to the course work, we have a 36 credit dissertation requirement for Ph.D. degree, a thesis (9 cr) or project (6 cr) requirement for M.S. degree and a Capstone project requirement (3-6 cr) for M.Eng.degree.

Ph.D. program requirements

- 108 graduate credits including the following
    - At least 36 credits of dissertation
    - Graduate level course on algorithms [4 cr]
    - Graduate course on big ideas in AI [2 cr]
    - A graduate course that covers ethical and social issues in AI [3 cr]
    - At least 16 credits of Core AI courses from a designated list [16 cr]
    - At least 16 credits of other non-blanket courses approved by committee [16 cr]

M.S. program requirements

- 45 graduate credits including the following
    - 9 research credits (thesis option) or 6 project credits (project option)
    - Graduate level course on algorithms [4 cr]
    - Graduate course on big ideas in AI [2 cr]
    - A graduate course that covers ethical and social issues in AI [3 cr]
    - At least 12 credits of core AI courses from a designated list [12 cr]
    - At least 12 credits of other non-blanket courses approved by committee [12 cr]
- M.S. thesis or project defense where the student defends their work with a committee in an oral exam. The M.S. thesis defense can be combined with the PhD qualifier with the approval of the respective committees.

M.Eng. program requirements

- 45 graduate credits including the following
    - Graduate level course on algorithms [4 cr]
    - A graduate course on big ideas in AI [2 cr]
    - A graduate course that covers ethical and social issues in AI [3 cr]
    - At least 12 credits of core AI courses from a designated list [12 cr]
    - At least 12 credits of other non-blanket courses approved by committee [12 cr]
    - Graduate capstone [3-6 cr]

The courses with the CS designator will be migrated to the AI designator when it is approved. To facilitate students from multiple disciplines taking these courses, the course prerequisites are confined to programming skills, (e.g., Python, Java, etc. and mathematics, e.g., linear algebra, vector calculus, statistics and probability).

CS 531: Artificial Intelligence (4) [search, knowledge representation and inference]
CS 533: Intelligent Agents and Decision Making (4) [planning and reinforcement learning]
CS 534: Machine Learning (4) [supervised and unsupervised learning]
CS 535: Deep Learning (4)
CS 536: Probabilistic Graphical Models (4)
CS 537: Computer Vision (4)
CS 538: Natural Language Processing (4)
CS 637: Advanced Computer Vision (4)
PHLI 546: Social and Ethical Issues in Artificial Intelligence (3) [New course, satisfies ethics requirement]

ROB 534: Sequential Decision Making in Robotics (4)
ROB 538: Autonomous Agents and Multi-agent Systems (4)

Some of the following courses will be added to the core list in the future based on the availability of faculty and their teaching interests. We will introduce an AI designator for the core courses and cross-list them with others whenever it is reasonable.

Advanced Reinforcement Learning
Advanced Machine Learning
Software Engineering of Machine Learning Systems
Causal Learning and Reasoning
Applied Artificial Intelligence
Big Data Exploration and Analytics
Learning Theory
Speech Processing
Dialog Systems
Information Retrieval
Ethical and Social Issues in Artificial Intelligence
Multi-Modal Perception
Egocentric Vision
Robust and Safe Artificial Intelligence
Constraint Satisfaction and Optimization
Advanced Automated Planning Systems
Artificial Intelligence in Biomedicine

The following are some examples of non-core courses that can be counted as part of the AI program. Other courses can be approved by the committee with the dual goals of supporting the student's research and contributing to their broad scholarship. Given the interdisciplinary nature of the AI program, we encourage the committees to be as inclusive as possible within the parameters of the above two objectives. We will have collaborative agreements with other departments that offer these courses to make them accessible to AI students.

BB 585: Applied Bioinformatics
BB 586: Advanced Molecular Genetics
CS 517: Theory of Computation
CS 540: Database Management Systems
CS 544: Operating Systems II
CS 546: Networks in Computational Biology
CS 555: Signal and Image Processing
CS 561: Software Engineering Methods
CS 565: Human Computer Interaction
CS 570: High Performance Computer Architecture
CS 575: Introduction to Parallel Programming
CS 578: Cybersecurity
CS 581: Programming Languages
ECE 565: Estimation, Detection, and Filtering
ECE 569: Convex Optimization [New course, taught earlier as Special Topics]
ECE 566: Information Theory
FW 599. Special Topics [Machine Learning Topics in Species Distribution Modeling]
H 524: Introduction to Biostatistics
H 566: Data Mining in Public Health
H 580: Linear Regression and Analysis of Time to Event Data
H 581: Generalized Linear Models and Categorical Data Analysis
IE 521: Industrial Systems Optimization I
IE 522: Industrial Systems Optimization II
IE 523: Integer Programming
MTH 527. Introduction to Mathematical Biology
MTH 528. Stochastic Elements in Mathematical Biology

ME 531: Linear Multivariate Control Systems I
ME 532: Linear Multivariable Control Systems II
ME 533: Nonlinear Dynamic Analysis
PHL 556: Minds, Brains and Machines (new course)
PSY 531: Graduate Behavioral Neuroscience
PSY 541: Graduate Seminar in Cognition
PSY 542: Perception
PSY 544: Learning and Memory
PSY 554: Cognitive Development
PSY 558: Language Acquisition
PSY 594: Engineering Psychology
ROB 521: Applied Robotics
ROB 537: Learning-Based Control
ROB 551: Mobile Robots (New Course)
ROB 567: Human Robot Interaction
ROB 599: Robots and Society (New Course)
ST 511-513: Methods of Data Analysis
ST 521-522: Introduction to Mathematical Statistics
ST 561-563: Theory of Statistics Sequence
ST 559: Bayesian Statistics
ST 591. Introduction to Quantitative Genomics
ST 592. Statistical Methods for Genomics Research
VMB 631. Mathematical Modeling of Biological Systems
VMB 670. Introduction to Systems Biology

d. Manner in which the program will be delivered, including program location (if offered outside of the main campus), course scheduling, and the use of technology (for both on-campus and off-campus delivery).

The program will be delivered on-campus through classroom and laboratory formats. There are no plans for off-campus delivery at present.

e. Adequacy and quality of faculty delivering the program.

The school of EECS presently has 15 AI faculty members including part time appointments in EECS. These 15 faculty teach the core AI graduate courses listed in the first part of 1.c. In addition, there are at least 13 faculty members in EECS and MIME (Mechanical Industrial and Manufacturing Engineering) who also teach courses relevant to AI given in the second part of 1.c. All these faculty members have active research programs and advise graduate students working in AI. The AI group is the largest in EECS in terms of the amount of external research funding, the number of students, the number of graduate applicants and the number of faculty. The faculty routinely serve on the program committees of archival conferences and the editorial boards of top international journals. The combined expertise of the faculty in EECS and MIME will allow the delivery of a high-quality program in AI. Currently the AI sub-discipline of the Computer Science program ranks 25th on www.csrankings.org - the de-facto standard for ranking of graduate schools based on the quantity and quality of publications in top-tiered journals and conferences. This compares favorably with the entire Computer Science program, which ranks 46th.

f. Adequacy of faculty resources – full-time, part-time, adjunct.

The core are 15 faculty members currently in the School of Electrical Engineering and Computer Science with an emphasis in Artificial Intelligence.

The are 13 faculty members in the Schools of Electrical Engineering and Computer Science (EECS) and Mechanical Engineering and Industrial Engineering (MIME) teach courses, research topics related to AI, and advise AI students.

40 faculty members from departments and schools including Statistics, MIME, Chemical Biological and Environmental Engineering (CBEE), Civil and Construction Engineering (CCE), Center for Genome Research and Biocomputing (CGRB), Mathematics, College of Earth, Ocean, and Atmospheric Sciences (CEOAS), and Physics teach courses and do applied and theoretical research

relevant to AI. They will be involved as committee members and co-advisors for AI students and participate in joint research projects.

g. Other staff

The AI program will have a program director who is a tenure track faculty with a 0.1 FTE full year appointment supported by the College of Engineering. Support staff (at least 0.5 FTE), funded by the School of EECS and/or the College of Engineering, will provide administrative support.

h. Adequacy of Facilities, library, and other resources.

Computer, teaching and research laboratories and faculty offices are presently located in the Kelley Engineering Center and the Graf Hall. Computer services are provided through the College of Engineering and include access to graduate-level software packages for analysis and design. Graduate students are provided offices in Kelley Engineering Center and Graf Hall. The College of Engineering at OSU has recently invested in 6 NVIDIA DGX-2 servers with 8x NVIDIA Tesla V100 GPUs each which provide state-of-the-art GPU computation capabilities.

Most AI research is published in archival conferences which are available on the web. The program would benefit by subscriptions to interdisciplinary journals that discuss AI research and subscribe to online access of relevant journals. It will also be helpful to add to our book collection on topics related to AI. A formal evaluation of our library facilities found that the collections are inadequate to support the proposal but can be made adequate through a modest investment of about $3500/year in journals and monographs.

i. Anticipated start date.

We propose to start admitting students in the Winter 2021.

2. Relationship to Mission and Goals

a. Manner in which the proposed program supports the institution's mission, signature areas of focus, and strategic priorities.

The proposed AI program significantly contributes to the targeted strengths listed in OSU's Strategic Plan 4.0. as shown below.

Innovation in Education, Inclusion, and Collaboration: While AI is historically rooted in the discipline of Computer Science, it is connected to a number of different disciplines ranging from philosophy to biology and from statistics to robotics. The interdisciplinary AI degree seeks to bridge this broad spectrum of disciplines by offering a variety of different paths through the intellectual landscape, while at the same time offering a coherent body of core knowledge that is rooted in a computational perspective and informs the other fields. Thus, the program offers excellent opportunities for innovative education and cross-disciplinary collaboration. One such recent example at OSU was the IGERT program in eco-informatics led by faculty in Geosciences, Computer Science, Ecology, Engineering, and Statistics and supported by NSF for over a decade. The AI program opens up opportunities for several such innovative programs and interdisciplinary collaborations.

Revolutionary Earth Systems Science: AI supports earth systems research by improving ecological and climate models, enabling evidence-based management of forests, agriculture, fisheries and wildlife, supporting renewable energy management, and advancing technologies that support sustainable cities and infrastructure.

Leading in Health and Wellness: AI supports human health and wellness directly through advances in medical diagnosis, precision medicine, drug discovery, health informatics, robotic surgery, and prosthetics. More indirectly, AI algorithms improve the performance of emergency response systems, health monitoring systems, and serve a variety of assistive and entertainment functions.

Economic Prosperity and Social Progress: AI is arguably the most promising technology to spur economic prosperity in the next few decades, both by opening new markets such as advanced diagnostics, material discovery, computer-assisted tutoring, automated trading, and machine translation, as well as supporting established markets such as manufacturing, logistics,

transportation, business and agriculture. In the Emerging Technologies report of World Economic Forum released in 2018, AI was mentioned in 3 of the top 10 technologies. Many of the current AI faculty have worked on a range of old and new applications including medical diagnosis, clean energy, logistics, machine translation and smart agriculture.

b. Manner in which the proposed program contributes to institutional and statewide goals for student access and diversity, quality learning, research, knowledge creation and innovation, and economic and cultural support of Oregon and its communities.

The program contributes to institutional and statewide goals by supporting graduate level education and research in AI both at the Master and Doctorate levels. One of the unique aspects of the program is that we require all students to gain experience in working on challenging real world problems through their final project, thesis or the graduate capstone. We will actively seek industrial collaborators to define and fund the capstone projects, provide opportunities for internships and mentor students. The AI faculty are members of the Collaborative Robotics and Intelligent Systems (CoRIS) Institute, which will play a big role in finding industrial partners for the student projects and nurturing industry-university collaborations.

The AI program continues the current path it is on as part of the Computer Science program towards improving the quality, the size and the diversity of its student body. By creating an interdisciplinary program in AI with multiple graduate degrees, it becomes possible to educate students in other fields in the tools and techniques of AI, and also create new knowledge that overlaps with other fields. Given the importance of AI as an economic engine for the country and the world, the development of the AI program plays a pivotal role for the economic and social progress of Oregon and its communities.

c. Manner in which the program meets regional or statewide needs and enhances the state's capacity to:

i. improve educational attainment in the region and state;
ii. respond effectively to social, economic, and environmental challenges and opportunities; and
iii. address civic and cultural demands of citizenship.

The graduate program in AI is attractive for students in Computer Science and Electrical Engineering who would like to address many challenges faced by the society and the industry. It also offers new opportunities for graduate education in the state by opening the doors for students who do not have degrees in Computer Science or Electrical Engineering. Indeed, there is currently a significant demand for AI expertise in many fields as varied as agriculture, ecology, education, health, business and engineering. This allows students who have degrees in these areas to gain additional graduate education in AI and meet the growing demand within the state and nationally.

AI has the potential to transform society in many ways to meet the environmental challenges of our times, which are especially relevant to the Pacific Northwest. AI has opened up opportunities in many other fields relevant to Oregon including forestry, fisheries, agriculture, and electronic manufacturing. Finally, some of the latest research in AI is trying to understand the causal mechanisms underneath many societal ills such as crime, poverty and inequality through innovative computational modeling and improved algorithmic techniques. We expect these developments to have a large impact in Oregon and elsewhere.

3. Accreditation

a. Accrediting body or professional society that has established standards in the area in which the program lies, if applicable.

There is no accreditation body for graduate degrees in AI.

b. Ability of the program to meet professional accreditation standards. If the program does not or cannot meet those standards, the proposal should identify the area(s) in which it is deficient and

indicate steps needed to qualify the program for accreditation and date by which it would be expected to be fully accredited.

Not applicable.

c. If the proposed program is a graduate program in which the institution offers an undergraduate program, proposal should identify whether or not the undergraduate program is accredited and, if not, what would be required to qualify it for accreditation
.
Not applicable.

d. If accreditation is a goal, the proposal should identify the steps being taken to achieve accreditation. If the program is not seeking accreditation, the proposal should indicate why it is not.

Not applicable.

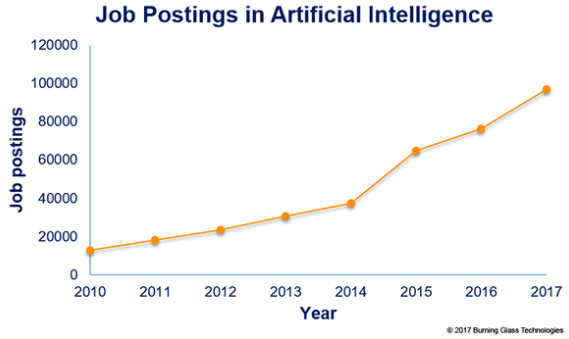
4. Need

a. Anticipated fall term headcount and FTE enrollment over each of the next five years.

	1st year	2nd year	3rd year	4th year	5th year	10th year
Ph.D	10	20	30	40	50	60
Masters	15	35	45	50	55	60
Total	25	55	75	90	105	120

b. Evidence of market demand.

With recent advances in AI from conversational agents to self-driving cars, AI is now a trillion-dollar industry and is expected to quadruple in the next 3 years. McKinsey report on the economic impact of AI predicts that 70% of the companies will be adopting at least 1 type of AI technology by 2030, resulting in an additional global economic activity of 13 trillion dollars (https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-ai-frontier-modeling-the-impact-of-ai-on-the-world-economy



Above is a chart evidencing growth in job postings in AI according to Burning Glass Technologies

The graph above shows the number of job postings in AI according to Burning Glass Technologies report of 2017 (https://www.burning-glass.com/blog/artificial-intelligence-hiring-expands-beyond-tech-sector/). They predict a growth of 109.4% in Machine Learning jobs and 135.1% in AI jobs during the 2018-2023 period. Given the huge potential growth, the demand for AI skills both at OSU and other universities is skyrocketing.

c. If the program's location is shared with another similar Oregon public university program, the proposal should provide externally validated evidence of need (e.g., surveys, focus groups, documented requests, occupational/employment statistics and forecasts).

There is no similar Oregon public university program in AI. Indeed, there is no similar program in the country that offers M.S. and M.Eng. and Ph.D. degrees in AI.

d. Estimate the prospects for success of program graduates (employment or graduate school) and consideration of licensure, if appropriate. What are the expected career paths for students in this program?

The AI Ph.D. graduates will be suitable for similar industrial and academic research jobs which our current EECS graduates who specialize in AI. These include jobs in companies such as Google, Facebook, Microsoft, Apple, Amazon and others as well as academic positions in research and teaching universities. The interdisciplinary emphasis of the new degree will open the opportunities for many students who do not have traditional CS background.

5. Outcomes and Quality Assessment

a. Expected learning outcomes of the program.

For the PhD program, they are:

- Produce and defend an original significant contribution to knowledge
- Demonstrate mastery of subject material
- Conduct scholarly or professional activities in an ethical manner.

For the M.S. and M.Eng. programs, they are:

- Conduct research or produce some other form of creative work, usually in the form of a software project
- Demonstrate mastery of subject material
- Conduct scholarly or professional activities in an ethical manner.

b. Methods by which the learning outcomes will be assessed and used to improve curriculum and instruction.

The graduate program director will be responsible for annual assessment of different degree programs and making recommendations for improvements based on the data. The program will have an interdisciplinary curriculum committee that periodically reviews and makes curricular proposals.

In addition, a Graduate Program Review (GPR) every 7 years will enable the program to reflect on and evaluate programmatic successes and failures, and potential improvements. Program reviews will identify strengths, weaknesses, aspirations, opportunities and needs.

c. Nature and level of research and/or scholarly work expected of program faculty; indicators of success in those areas.

All faculty members who identify with the AI graduate program are active in research including funded projects. For the core faculty, the present research funding is about $5 million per year. Performance parameters continually collected by the College of Engineering include:

- Scholarly publications
- Participation in professional meetings, conferences and workshops
- External funding for research
- Number and magnitude of proposals written
- Number of PhD/MS students supervised
- Participation in professional societies, editorial boards, and commissions

These indicators are evaluated each year in the faculty member's annual review.

6. Program Integration and Collaboration

a. Closely related programs in this or other Oregon colleges and universities.

There are no other graduate level stand-alone AI programs in Oregon or in the country. The offerings in the AI program are most similar to what are found in the top CS programs in the country. Expanding the faculty and the course offerings and taking advantage of the synergies across other departments and colleges at OSU will make the program uniquely attractive. We will work closely with CGRB, the robotics program in MIME, and the Statistics department to develop joint courses and find collaborative research projects.

b. Ways in which the program complements other similar programs in other Oregon institutions and other related programs at this institution. Proposal should identify the potential for collaboration.

The AI program will facilitate collaboration opportunities with University of Oregon and with Oregon Health Sciences University in areas such as computer science, neuroscience, precision health and medical informatics. We have received letters of interest from faculty of these institutions. We will make it easier for graduate students at all universities to take courses at the other universities and get credit.

c. If applicable, proposal should state why this program may not be collaborating with existing similar programs.

Not applicable.

d. Potential impacts on other programs.

There are no significant negative impacts on other programs. We expect some of the AI students will be drawn from the existing programs such as CS, ECE, and Robotics. Since most of the AI faculty are also drawn from these two programs, we don't expect a net loss of students for the college as a whole. We also expect that many AI students to seek double-majors either in CS or in ECE along with AI.

7. External Review

The External Review report has been provided to the Graduate School.

Institution: Oregon state University
Program: MS/MEng/PhD in Artificial Intelligence

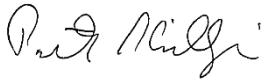
Action: At the **October 20, 2020** meeting, the Statewide Provosts Council approved a new program for **Oregon State University, MS/MEng/PhD in Artificial Intelligence,** to move forward to the Oregon Higher Education Coordinating Commission for its review and approval. The **Oregon State University** Board of Trustees approved the **MS/MEng/PhD in Artificial Intelligence** program at its **August 14, 2020** meeting.

Eastern Oregon University
Sarah Witte, provost
X Approved
__Opposed
__Abstained

Oregon State University
Ed Feser, provost
X Approved
__Opposed
__Abstained

Portland State University
Susan Jeffords, provost
X Approved
__Opposed
__Abstained

University of Oregon
Patrick Phillips, provost
X Approved
__Opposed
__Abstained



Oregon Health & Science University
Elena Andresen, interim provost
X Approved
__Opposed
__Abstained

Oregon Tech
Joanna Mott, provost
X Approved
__Opposed
__Abstained

Southern Oregon University
Susan Walsh, provost
X Approved
__Opposed
__Abstained

Western Oregon University
Rob Winningham, provost
X Approved
__Opposed
__Abstained