Recommendation for
Department of Applied Computing

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College of Computing

UNIVERSITY SENATE
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Brief History

- **April 2019.** Data Revolution and Sensing Task Force recommends formation of College of Computing, bringing together faculty from CS, EET, CNSA, and HI programs, with a School-like structure.

- **May 2019.** Department of Computer Science makes a strong case for remaining intact as an academic department.

- **July 2019.** College of Computing launches with Department of Computer Science and CNSA/MERET/HI Division.
Michigan Tech
College of Computing
Adrienne R. Minerick, Dean

Department of Computer Science
Linda Ott, Chair

B.S. Computer Science
Concentrations:
- Computer Science
- Computer Systems
- Game Development
- Applications

B.S. Software Engineering

M.S. Computer Science

M.S. Cybersecurity

B.S. Computer Network and System Administration

M.S. Cybersecurity (new)
Concentrations: Software Security (CS)
System and Network Security (CNSA)

M.S. Cybersecurity (new)

M.S. Health Informatics

B.S. Electrical Engineering Technology

M.S. Mechatronics (new)
Data on Enrolled Students

MAJORS IN CNSA, EET, HI

Number of enrolled students

FL09 | FL11 | FL13 | FL15 | FL17 | FL19
Data on Student Credit Hours

STUDENT CREDIT HOURS FOR SAT AND EET PREFIXES

AY11  AY12  AY13  AY14  AY15  AY16  AY17  AY18  AY19  AY20

Academic Year (excludes summers)
Data on Research Expenditures
University Marketing and Communications has done an analysis of academic units and programs that include the term “Applied Computing” (we can make this available).

There are very few academic units that include this term (we found three academic units and one industry-funded research institute.) There is no “Department of Applied Computing.”

There are several (~12 in U.S.) academic programs in Applied Computing.

- Common denominator is what we would call Computer Network and System Administration.
- Some have a business focus
- Some are online/continuing education programs
- Some are what we would call “CS+X”
- None include mechatronics or health informatics
UMC Conclusion:

The term “Applied Computing” is simple, concise, straightforward, and therefore *marketable*.

It makes strategic sense to align Michigan Tech with industry standard terminology and rely on the programs themselves to provide distinction.

Future marketing efforts will target program names, not unit names.

JEH Conclusion:

The name is modern, and will attract new students to Michigan Tech, even those who may eventually end up in different computing or engineering programs. We aim to “grow the pie.”
Academic programs in Computer Network and System Administration, Cybersecurity, and Health Informatics are distinct, and complementary to programs in ECE and CS.

As the College of Computing matures, the program currently known as EET is transitioning to focus more on industrial control and automation – an area in which “applied computing” can bring together CS, CNSA, ME, MET, EE, EET, CpE, CLS, and other fields. A proposal for a degree BS in Mechatronics is forthcoming.
What Will Be New?

• Continued migration of MERET group toward industrial control and automation

• Growth in cybersecurity area

• Growth in health informatics area

• Growth in externally sponsored research

• Internal collaboration/cooperation around the theme of Industry 4.0

• Emerging opportunities for “convergence programs” to develop focus on the applications of computing for industry and society across campus
WHAT IS INDUSTRY 4.0?

The convergence of digital and physical technologies disrupting the manufacturing industry.

Slide courtesy of Automation Alley
Questions?