

# **Honors Research Project Guidelines**

## **Chemical and Biomolecular Engineering**

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EF I KHO>=I

# L RHN K>OB>P RHNK>O><NND> LNF F : KR, RHN LAHNE= F : D> LNK> M: MA>L> ?D> J N>LNGHGL : K> : GLP >K>=ž

- 7 A: M=B= RHN =H °MLM= P A: MARI HM>LB ""
- 7 AR =B= RHN =H BMM<AGHEH@B: ELB@GEB: G<> : G= ; KH =>K EF I : <M ""
- \* HP =B= RHN =H B M
- 7 A: MP >K> RHNK EF I HKMGMK>LNEV °M<AGB: E: G= E: KGB@ ""
- 7 A: MB: GRM@B@ P : L NGBI N> ; ; HNM RHNKI KH< <M

/6, ? 6. :0- \$-768 °LMKM G>P I : @>

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7 A>G MA> BGMAH=N<NHG L><NHG B. EG<EN=>= °MA<AGB< EI : I >KL ?NEM<AGB< EK>I HKM> >M° BMB NL=> MA<B>GNR MA> LN; G<MI KH; E>F , =>L<KB >MA>I NKI HL>H?MA>I KH<M: G= HNNEG>MA>L<HI >H?MA> I KH<M<MKI KH; E>F ; >EG@=>L<KB =>I +M>@EGL P BA @>G>K: ELMVAF >GMVMA: M: I MK>: ; KH = : N=BG<: G= @>MIF HK>: G= F HK> LI ><PB # ; KB?LMVAF >GMH?AHP MA> <NKK>GMP HKD B. K>E MA= MAI KBK P HKD < G; > EG<EN=>=I 4A> BGMAH=N<NHG LAHNE= HNNEG> P AR MA>I KH<M<MKI KH; E>F B. BF I HKVGM G= BMAHNE= HNNEG> MA> K>LMH?MA>=H<NF >GMB LHF >?. LABGI 8HN F NLMF : D>LNK> MA: MA>=H<NF >GMB P KBWAG ?HKMA> BGMG=>=: N=BG<! ?HK>Q F I E, P A: MNGBM: K> <HF F HGER NL=>= P BMB MA>=B<B EG>H?RHNK: N=BG<>

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7 A>G MA>; : <D@KHNG= L><NHG B. EG<EN=>= BMB NL=> MA<K>OBP K>E>O: GMI KBK K>L: K<A EG HK=>KMI L>MNI MA>K>LMH?MA>=H<NF >GM # =BNG<NHG LAHNE= ; >F : =>; >MA>>G MA>I KBK P HKD: G= MA> P HKD; >EG@=>L<KB =>I 4A>; : <D@KHNG= L><NHG LAHNE= : ELH; >NL=> MA=>L<KB >MA>HKB L HK : I I KH <A>L MA: M K>NG? F BB Ki - BF BMA>; : <D@KHNG= =B<NLLBHG MA>F HLMK>E>O: GM>MEL \$>LNK> MA<K>?>K>G< I : I >KL: G= ; HDL: I I KH I KB MERI - BF BMA>GNF ; >KH?K>?>K>G<L MA F : MKB EL MA: M: GGHM >H; MBG=> : LBR I 8HN F NLMF : D>LNK> MA: MA>=H<NF >GMB P KBWAG ?HK MA> BGMG=>=: N=BG<I 805 . 534 / 041 - #) #2+9' ~

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' Q >KF >GMEF >MAH=L LAHNE= ; > EG<EN=>= EG >GHNA =>MEEMA: MA>>Q >KF >GM< G; > K>I KH=N<=> ; R HMA>KI >HI E! MA>L><NHG LAHNE= GHMAHP >O>K; ; >P KBWAG EB>: K>B >I 3<A>F : NLL LAHNE= ; >NL=> MA>B BBNLM MA=>L<KB NHGL 2>E>O: GM>MEL : ; HNMF : MKB EL: G= <HF I HG>GM LAHNE= ; > EG<EN=>=I 5GNLN: EI KH<=>NK>L LAHNE= ; >>Q E EG=> EG =>MEE 2>?>K>G<L MAI KBK HMA>KP HKD < G; >NL=> MA LAHKVAG MBL L><NHG! F : D>LNK> MA: MK>?>K>G<=> F : MKB EL: K> >: LBR ?HNG=I 4A> <HG=BHGL NL=>=NK@MA>>Q >KF >GMAHNE= : ELH; >BLM= °I >KA: I L EG M; E? ?HKF : MI # GRM@MA: MB K>E>O: GMM MA> BMAI K>MNHG H?K>LNEV LAHNE= ; >F >GNHG=> EG LHF > P: Ri 8HN < G EG<EN=> MA>>Q >KF >GMEI KH<=>NK> EG K>B >?HKF : M NMHGER : L: G: I I >G=BQMI MA>K>I HKM

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4A>=: M: G= K>LNEV L><NHG EG<EN=>L =: M: G= < ENE MA= K>LNEV MA: M GLP >KMA>J N>L NHGL K B>=: R MA>H; G<ND>L H?MA> EGO>LND NHGI 4A> K>LNEV K>I HKMA= A>K> LAHNE= I K>I : K> ?HKMA> =B<NLLBHG: G= CNLNR MA> <HG<ENLBHGL H?E M&KL<NHGL H?MA> K>I HKM 4A>=: M: G= K>LNEV: K> H?VAG I K>L>GMA= ; >LML @K I AL; NMM; E>L F : R: ELH; >NL=>I (HK>Q F I E, BMA>@H EH?MA> >Q >KF >GMB MA=>MAK EG>MA>>?>MH?> BK ?HP K MAHG: F : LL MA GL?>K >H?>BBGMVMA>G: @K I A H?F : LL MA GL?>K >H?>BBGM>KLN L: BK ?HP K MA P HNE= ; >I KHOB=>I OG MA>HMA>KA: G= K>LNEV LN<A: L =BNE MA <HF I HLBHGL OLI O: KBINL <HNF G HI >K NG@LMI M@BL F BAM >I K>L>GMA= EG: M; E! 8HN F NLMF : D>LNK> MA: MA>NGBM: K> <E: KER EG=B< MA: : G= MA: M EEO: KB; E>L: K>=>?EG=>I

%: E<NE NHGL I >K?HKF => NLE@. # 4\* %# & LI K>: =LA>>M> MA F : R; > EG<EN=>=: L: I I >G=B>L,

; NM => JN: M <HF F >G@ O: KB; E =>?GNG F NLM <<HF I : GR I KH@K F U 4A>K>LNEV H?M>L>  
< E-NE N-HGL LAHNE= ; > EG <EN=>= =BK<NR EG M>=: M: G= K>LNEVL<>N-HG P: I I KHI KB M

O K@G: E°K P " =: M: K>NLN: ER K>I HKM= EG M; E>L EG # I I >G=B>L <HI B= ?KH M>HK@G: EE ;  
GHM; HHD: %: EB K N-HG <NKO>L: G= HM>K@K: I AL P ABA =HGHMK>E M =K<NR M M>=B<NLLBHG  
: G= <HG<ENLHGL < G °: G= LAHNE=" ; > K>I HKM= EG M># I I >G=BQ

' : <A @K I A HKHM>K?@NK> LAHNE= A: O>: ?@NK>GNF ; >K: G= N@ 8HN F NLMK>?>KMI M>?@NK>  
: G=/ HKM; E>P B@EG M>MCMHM>KP B>M>K: =>KF : R GHM >; ; E>MING=>KLMG= M>  
B I EB: N-HG H?RHNK?@NK>" 4A>: O>L H?M>@K: I A LAHNE= ; ><E: KER E ; >E= EG <EN=EG@NGBM H?  
F >: LNK>F >GM' Q >KF >GMEI HEGM LAHNE= ; > EG=B: M= EG=OB=N: ER °<K>E, MB G

# I I >G=EQ: ELH EG <EN=>L: GR HMA>K <HF I NMAKI KH@K F L: G= MA>BK K>LNEVIGHMI K>OBHLER @B>Gi  
4A> ?EG: EI : @ I K>L>GNVMA>GHF >G<E NIK>NL=> EG MA>K I HKM

%HF I NMAKI KH@K F L. : M: ; EGI NMPBE>L 1HERF : MA EGI NMPBE>L >MA F NLM> EBLMA= : G= MA>  
I KEGM= K>LNEVLAHNE= ; >: NMA<A>= MAMA> ?EG: EK I HKM 4A>L> EGI NMPBE>L LAHNE= ; > <NMG= I : LMA=  
: L MCMGMA MA>K I HKM 7 A>G LN; F BMBG@K I HKM I>E<M HGB: EER RHN F NLMF : D> LNK> MA: MAA>  
K>B BGM: G HI >G: G= K: = RHNK ?E>LI: MAA>5 GBO>KLBW H?# DKHG: EE? <NEVA < G HI >G. BKHLH?M  
H??B> ?E>L 1KH@K F L M; E>L: G= @K I AL ?KH F HMA>KI KH@K F L < G; >TI: LMA=UBGMA MA>K I HKM  
°>@. # 4\* %# & . # 4- # \$ HK6\$# I KH@K F L": L EHG@: L: =>JN: M <HF F >GMB@ O: KB; E  
=>?EGM HGL: <<HF I: GR MA>I KH@K F I

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Your abstract (200 words maximum) is to be prepared according to the following guidelines:

In your first few sentences, define your project indicating its purpose, *scope*, and limits.  
Then describe, as concisely and clearly as you can, what you did, *what you found*, and what made it  
worth doing. In this part you summarize your research *methods* and design, your major *findings* and

the written part of your project (photographs, videotapes, audiotapes, manuscripts, etc.).

The final version of the title for your project should include, as appropriate to your field of study, the subject words with which it would be located through a scholarly index.

The abstract must be perfect in spelling, punctuation, grammar, and syntax. Please type it **double-spaced** and forward a copy to [dgannon@uakron.edu](mailto:dgannon@uakron.edu)

Type abstract in paragraph form, double-spaced, **12 point font**, maximum of 200 words. Save as a