Microelectronics-Photonics (MEPH)

Faculty
Simon S. Ang, Professor
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Salvador Barraza-Lopez, Associate Professor
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Zhong Chen, Assistant Professor
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Ingrid Fritsch, Professor
Huaxiang Fu, Professor
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David Huitink, Assistant Professor
Morten O. Jensen, Associate Professor
Jin-Woo Kim, Professor
Pradeep Kumar, Assistant Professor
Jiali Li, Professor
Yanbin Li, Distinguished Professor, Tyson Endowed Chair in Biosensing Engineering
Ajay P. Malshe, Distinguished Professor, Twenty-First Century Chair of Materials, Manufacturing and Integrated Systems
Omar Manasreh, Professor
Alan Mantooth, Distinguished Professor, Twenty-First Century Chair in Mixed-Signal IC Design and CAD
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Paul Millett, Assistant Professor
Mahmoud Moradi, Assistant Professor
Timothy J. Muldoon, Assistant Professor
Arun Nair, Assistant Professor
Hameed A. Naseem, University Professor
William Oliver III, Associate Professor
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Woodrow L. Shew, Associate Professor
Surendra P. Singh, University Professor
Julie A. Stenken, Professor, 21st Century Chair of Proteomics
Ryan Tian, Associate Professor
Steve Tung, Professor

Ken Vickers, Adjunct Research Professor, Retired from PHYS, MEPH in 2015
Yong Wang, Assistant Professor
Morgan Ware, Assistant Professor
Uchechukwu C. Wejinya, Associate Professor
Jie Xiao, Associate Professor, Arkansas Research Alliance Scholar
Min Xiao, Distinguished Professor
Fisher Yu, Associate Professor
Wenchao Zhou, Assistant Professor
Min Zou, Professor, Twenty-First Century Professorship

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Microelectronics-Photonics (microEP) is an interdisciplinary program based in the Division of Interdisciplinary Studies in the Graduate School that prepares students for careers involving micro/nano materials, processing, and devices applied in areas such as photonics, microelectronics, bio/chemical analysis, etc. The microEP Graduate Program offers M.S. and Ph.D. degrees, as well as an undergraduate minor in Microelectronics-Photonics.

The purpose of this minor is to allow undergraduates in science and engineering to be able to capitalize on the research and educational core of the microEP Graduate Program as they prepare to enter the job market or compete for positions in top level graduate programs.

Requirements for a minor in Microelectronics-Photonics:

Select one of the following: 3

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>INEG 4323</td>
<td>Quality Engineering and Management (Irregular)</td>
</tr>
<tr>
<td>INEG 4433</td>
<td>Systems Engineering and Management (Fa)</td>
</tr>
<tr>
<td>INEG 4443</td>
<td>Project Management (Irregular)</td>
</tr>
</tbody>
</table>

Select four of the following: 12

<table>
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<th>Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BENG 4123</td>
<td>Biosensors &amp; Bioinstrumentation (Odd years, Sp)</td>
</tr>
<tr>
<td>CHEM 4213</td>
<td>Instrumental Analysis (Sp)</td>
</tr>
<tr>
<td>ELEG 4203</td>
<td>Semiconductor Devices (Irregular)</td>
</tr>
<tr>
<td>ELEG 4223</td>
<td>Design and Fabrication of Solar Cells (Irregular)</td>
</tr>
<tr>
<td>MEEG 4303</td>
<td>Materials Laboratory (Irregular)</td>
</tr>
<tr>
<td>MEPH 488V</td>
<td>MicroEP Undergraduate Research (Sp, Fa)</td>
</tr>
<tr>
<td>PHYS 3603</td>
<td>Introduction to Modern Physics (Fa)</td>
</tr>
<tr>
<td>PHYS 4713</td>
<td>Solid State Physics (Even years, Sp)</td>
</tr>
<tr>
<td>PHYS 4213</td>
<td>Physics of Devices (Odd years, Fa)</td>
</tr>
</tbody>
</table>

Or from other appropriate courses not on this list if approved first by the microEP Program and by the course instructor. 1

Total Hours 15

1 See examples at the microEP Web site.

Students accepted into the microEP minor must attend an orientation session at the beginning of each semester as well as the monthly microEP graduate student research presentations. Students enrolled
in the microEP minor must attend at least one public presentation of a Master of Science thesis in microEP or a Doctor of Philosophy dissertation in microEP each semester. Students wishing to declare this minor must apply through the microEP Program Web site, http://microEP.uark.edu, and be accepted into the minor at least two regular semesters before their graduation date.

Courses

**MEPH 488V. MicroEP Undergraduate Research (Sp, Fa). 1-3 Hour.**
Special research topics associated with undergraduates enrolled in the Microelectronics-Photonics minor program, or by special permission of the microEP Director to undergraduate students engaged in research with microEP faculty members. May be repeated for up to 6 hours of degree credit.