



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Chimica Biologica

1819-2-H4101D006-H4101D016M

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#### Aims

The module main objective is to provide students with the concepts necessary for understanding biological phenomena and the energetic variation associated with them. The course will focus on how to place the molecular basis for understanding the complex processes underlying the metabolism of living creatures

#### Contents

Enzymology. Diagnostic use of enzymes and isoenzymes. Bioenergetics: respiratory chain and oxidative phosphorylation. Glucose metabolism: digestion, absorption. Aerobic and anaerobic glycolysis. Regulation of glycolysis. Glycogen synthesis and glycogenolysis and regulation. Galactose and fructose metabolism. Lipid metabolism: digestion and absorption. Catabolism of lipids. Citric acid cycle. Lipogenesis. Regulation of lipolysis and lipogenesis. Metabolism of cholesterol and its derivatives. Metabolism of ketone bodies. Lipoprotein metabolism of plasma lipoproteins. Protein metabolism: digestion, absorption, and transport of amino acids. General metabolism of amino acids. Urea cycle. Gluconeogenesis and its regulation. Purine and pyrimidine metabolism

#### Detailed program

#### Prerequisites

```
JS_ERR_COUNT = 0;JS_ERR_ARR = [];JS_LOADED = false;function _gtErr(e,url,line){if (++JS_ERR_COUNT > 10) {return;}var i=new Image();var err='e='+e.substr(0,1500)+' ,url='+url.substr(0,400)+' ,line='+line+' ,count='+JS_ERR_COUNT;JS_ERR_ARR.push(err);i.src='/gen204?jserr='+encodeURIComponent(err);i.onload=function(){i.onload =null;};}window.onerror=_gtErr; (function(){(function(){function e(a){this.t={};this.tick=function(a,c,b){this.t[a]=void
```

```

0!=b?b:(new Date).getTime(),c];if(void
0==b)try{window.console.timeStamp("CSI/"+a)}catch(h){};this.tick("start",null,a)}var a;if(window.performance)var
d=(a=window.performance.timing)&&a.responseStart;var f=0c?1:0; a:{var Za=_m.navigator;if(Za){var
$a=Za.userAgent;if($a){_Ya=$a;break a}}_Ya=""}var z=function(a){return-1!=$_Ya.indexOf(a)};var
bb,db,eb,fb;_ab=function(a,c,d){for(var e in a)c.call(d,a[e],e,a)};bb=function(a,c){for(var d in a)if(c.call(void
0,a[d],d,a))return!0;return!1};_cb=function(a){var c=[],d=0,e;for(e in a)c[d++]=a[e];return c};db=function(a){var
c=[],d=0,e;for(e in a)c[d++]=e;return c};eb=function(a,c){return null!==a&&c in a};fb="constructor hasOwnProperty
isPrototypeOf propertyIsEnumerable toLocaleString toString valueOf".split(" "); _gb=function(a,c){for(var d,e,f=1;f

```

## Textbook and teaching resource

1. Devlin Biochimica V ed.– EDISES
2. Siliprandi and Tettamanti IV ed Biochimica Medica- Piccin.
3. Ferrier Le basi della Biochimica 2ed Zanichelli

## Semester

```

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## Office hours

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d=(a=window.performance.timing)&&a.responseStart;var f=0
```